

# Bird records from Laos, October 1994-August 1995

J. W. DUCKWORTH, R. J. TIZARD, R. J. TIMMINS, R. M. THEWLIS,  
W. G. ROBICHAUD and T. D. EVANS

Between October 1994 and June 1995 birds were surveyed at six main areas in Laos, with incidental observations at many other sites extending until August 1995. Most effort was at four sites between 17°26' N and 18°40' N (the Nakay Plateau, Phou Khaokhoay National Biodiversity Conservation Area (NBCA), Nam Kading NBCA and three nearby limestone outcrops), but there was extensive work on the Bolaven Plateau to the south and a brief visit to Phou Dendin NBCA in the extreme north. The latter is the first bird survey of a site much north of Vientiane since 1950. Information was collected for 15 Globally Threatened species and 28 Globally Near-Threatened species (*sensu* Collar *et al.* 1994), nine species At Risk in Laos, seven potentially so and one where threats in Laos are little known (*sensu* Thewlis *et al.* in prep.). A further Globally Near-Threatened species was recorded provisionally. Records of Grey-sided Thrush *Turdus feae* and Black-headed Bunting *Emberiza melanocephala* were the first for Indochina. Ruddy Shelduck *Tadorna ferruginea*, Lesser Cuckoo *Cuculus poliocephalus*, Pallas's Gull *Larus ichthyæetus* (from December 1995), Dunlin *Calidris alpina*, Long-toed Stint *C. subminuta* and Chestnut-vented Nuthatch *Sitta nagaensis* were new to Laos and Eurasian Blackbird *Turdus merula* to Cambodia. A total of 12 (plus one provisionally identified), nine and five (plus one provisionally identified) species were found new for North, Central and South Laos respectively. Most discussion concerns geographical distribution, but seasonality of occurrence and altitudinal ranges are also covered.

This is the third paper (following Thewlis *et al.* 1996, Evans and Timmins 1997) documenting recent bird records from Laos, after an absence of new information between 1950 and 1990.

Fieldwork in 1994-1995 was conducted 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. Several surveys investigated the possible effects of hydropower projects (planned or under construction) on wildlife. As in the previous 24 months, the country north of 18°40' N was underworked compared with the south, although one site almost at the northern tip of Laos was visited briefly.

This paper provides baseline status information for all bird species observed with fuller information for records of particular interest. All species of elevated global or regional conservation concern are detailed fully in Thewlis *et al.* (in prep.). When birds were unidentified in the field using standard literature, but later identified by reference to museum skins, brief details are given concerning how the identification was clarified. Mammal records from these surveys are presented in Duckworth (1997) and Evans *et al.* (in prep.).

## ABBREVIATIONS AND CONVENTIONS

BM(NH), The Natural History Museum, Tring, U.K.; NBCA, National Biodiversity Conservation Area; PPA, Proposed Protected Area.

Taxonomy and nomenclature follow Inskipp *et al.* (1996). Other conventions follow Thewlis *et al.* (1996). Briefly:

- Indochina comprises Laos, Vietnam and Cambodia;
- The divisions of North, Central and South Laos follow King *et al.* (1975);

- Habitat classification is based on Round (1988) as expanded by Thewlis *et al.* (in prep.);

- Site names follow the Service Géographique d'Etat 1:100,000 series of maps, except those modified by Thewlis *et al.* (in prep.); this source gives co-ordinates and altitudes for most sites and relates map names to locally used names or those in past references. Sites not in Thewlis *et al.* (in prep.) are presented in a supplementary gazetteer in Appendix 2;

- Species of global and national conservation concern (together referred to as Key Species) are taken from Thewlis *et al.* (in prep.) which incorporates the assessments of Collar *et al.* (1994);

- Scientific names are given in the text only for species not in Appendix 1.

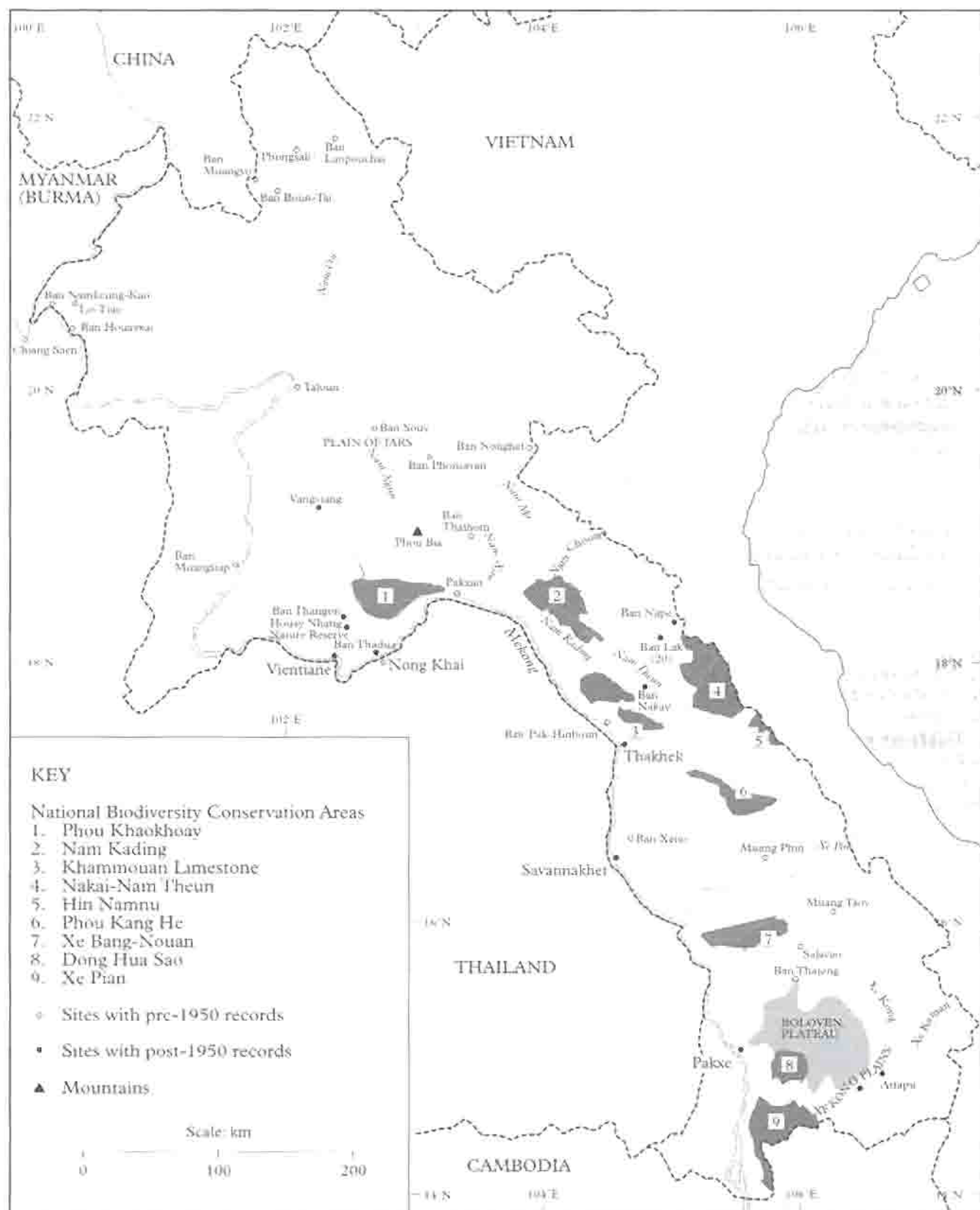
## STUDY SITES

All sites visited and referred to in the text are portrayed in Fig. 1.

### Main study sites

Nam Kading NBCA (18°11'-39'N 103°54'-104°34'E) and surroundings; North Laos with marginal overlap to Central Laos: 24 December 1994 - 31 January 1995, 18 March - 29 April 1995. Fig. 2: See WCS (1995c, d).

Three main areas of the NBCA, all under 600 m, were surveyed. Surveys outside NBCA boundaries were to investigate the effects of two dams on the Nam Kading, the Theun-Hinboun dam (abutting the upstream end of the NBCA) and proposed Nam Theun 1 dam (at the downstream extremity of the NBCA). This resulted in a complicated recording area (Fig. 2), broken down as follows (the designation of letters and numbers refers to Appendix 1).



**Figure 1.** Laos, showing localities mentioned in the text and Provinces

A. The Nam Kading NBCA includes 1,570 km<sup>2</sup> of evergreen forest on steep terrain at 160–1,600 m. The reserve is bisected for 59 km by the Nam Kading (known as the Nam Theun in its upper reaches), whose altitude drops from 380 to 160 m. A major tributary, the Nam Mouan, also crosses the NBCA. Rapids render the Nam Kading within much of the NBCA non-navigable. People visit these areas only infrequently, usually for specific

purposes: e.g. to search for 'mai dam', an extremely valuable and easily portable resinous wood product from *Aquilaria* sp. A party of over 70 people on 28 January boated from downstream of the NBCA up to the first uncrossable rapids, to walk through the forest to Ban Donme, a former village within the NBCA, and then hunt for several days. Except around Ban Donme, and at the upstream and downstream extremities of the NBCA, little

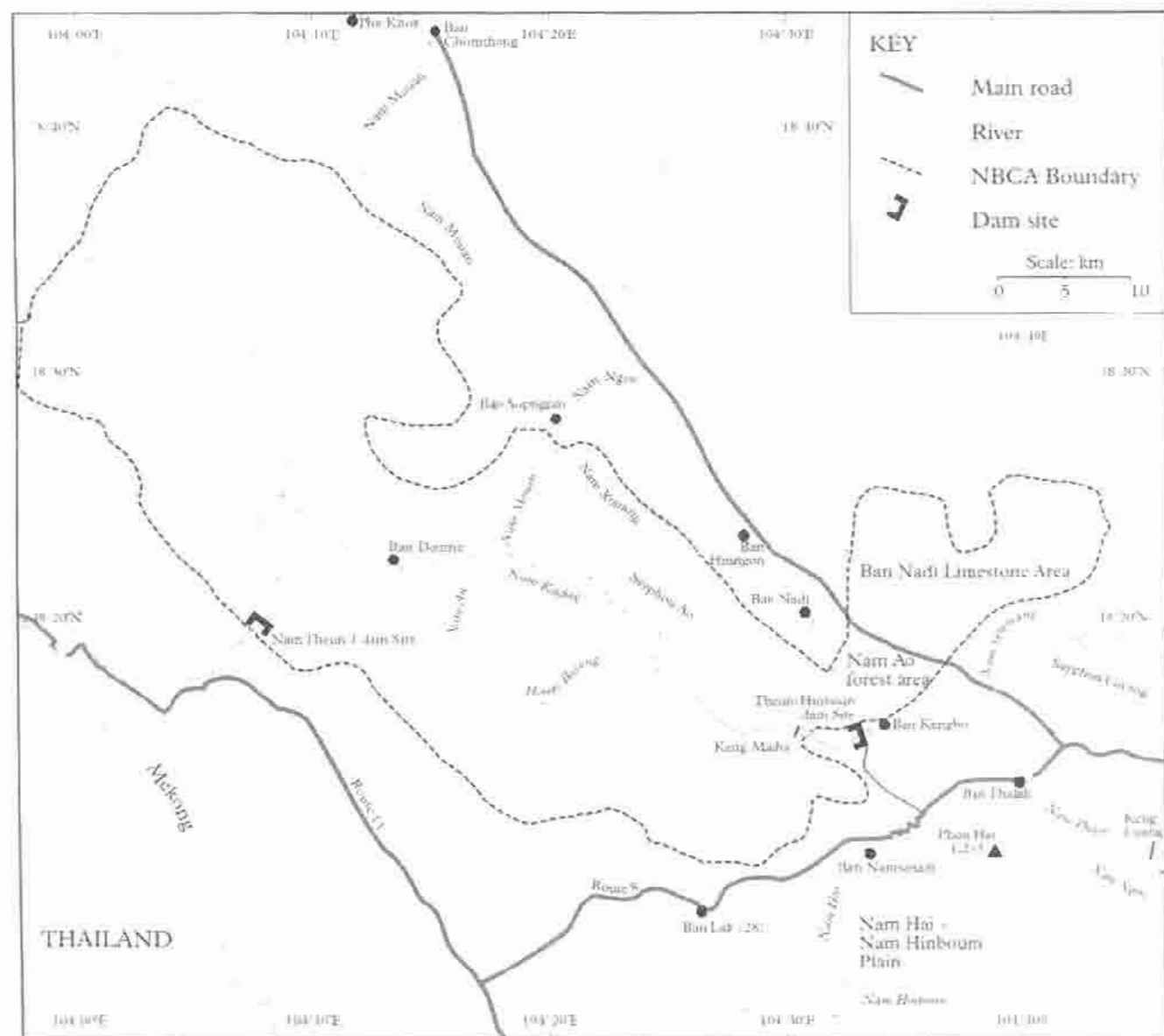


Figure 2 Nam Kading National Biodiversity Conservation Area

habitat destruction has occurred and the Nam Kading is probably the least disturbed large river in Laos. Much of the area is surrounded by cultivation, but largely natural habitat links Nam Kading NBCA with Khammouan Limestone and Nakay-Nam Theun NBCAs.

Sites surveyed within the NBCA and contiguous forests comprised the Nam Theun 1 dam site, the Ban Donthe area, the Nam An valley, the Houay Basong valley, the Nam Kading valley, Sayphou Aô, forest north of the Nam Ngouang, forest along the access road to the Theun-Hinboun dam site, forest north and south of Ban Kengbit and from there to Keng Maïha. Although a wide altitude was covered, these areas shared similar vegetation and terrain. Boat-based survey was minimal.

B. The Nam Ao forest north-east of the NBCA (18°16'-19°N 104°32'-36'E; 380-420 m) differed in vegetation from the NBCA, and had flatter terrain. Ban Kengbit lies at its southern end and it is bounded to the west by the slopes of the Nam Kading NBCA and to the north by the Nadi Limestone; to the east it grades into extensive secondary habitats.

C. Degraded habitat north-east of the Nam Kading NBCA, including the area around Keng Maïha at 380-420 m. The Nam Theun was ascended to 28 km, and the Nam

Gnouang to 42 km, upstream of Ban Kengbit. Records also came from scrub along the access road to the Theun-Hinboun dam site.

D. The Nam Mouan valley and other areas of extensive non-forest secondary habitats north of the NBCA, at 220-400 m. This includes the Nam Mouan valley from the convergence of the Nam Sang and Nam Chouan downstream to the inflow of the Nam Ngom, the Nam Ngom valley upstream to Ban Viengthong, and extensive scrub around Ban Hinngon. Observations were made on 19-24 March and 26 April - 4 May 1995, but totalled only six person-days.

E. Forest in the Nam Mouan valley at 500-750 m around the limestone of Pha Khok west of the Nam Mouan and other karst east of the Nam Mouan and Ban Pakngeun. Observations were made on 20-21 March 1995.

F. Degraded habitats along the Nam Kading between the Nam Theun 1 dam site and the Mekong. Observations, mostly from boats, were made on 28-29 January, 1 and 12 April 1995.

G. Forest at the northern edge of the Nam Hui - Nam Hinboun plain at 180-300 m (including the base of Phou Hai) on 14-15 May. These differed in terrain from forest in the Nam Kading NBCA and were at lower altitude.

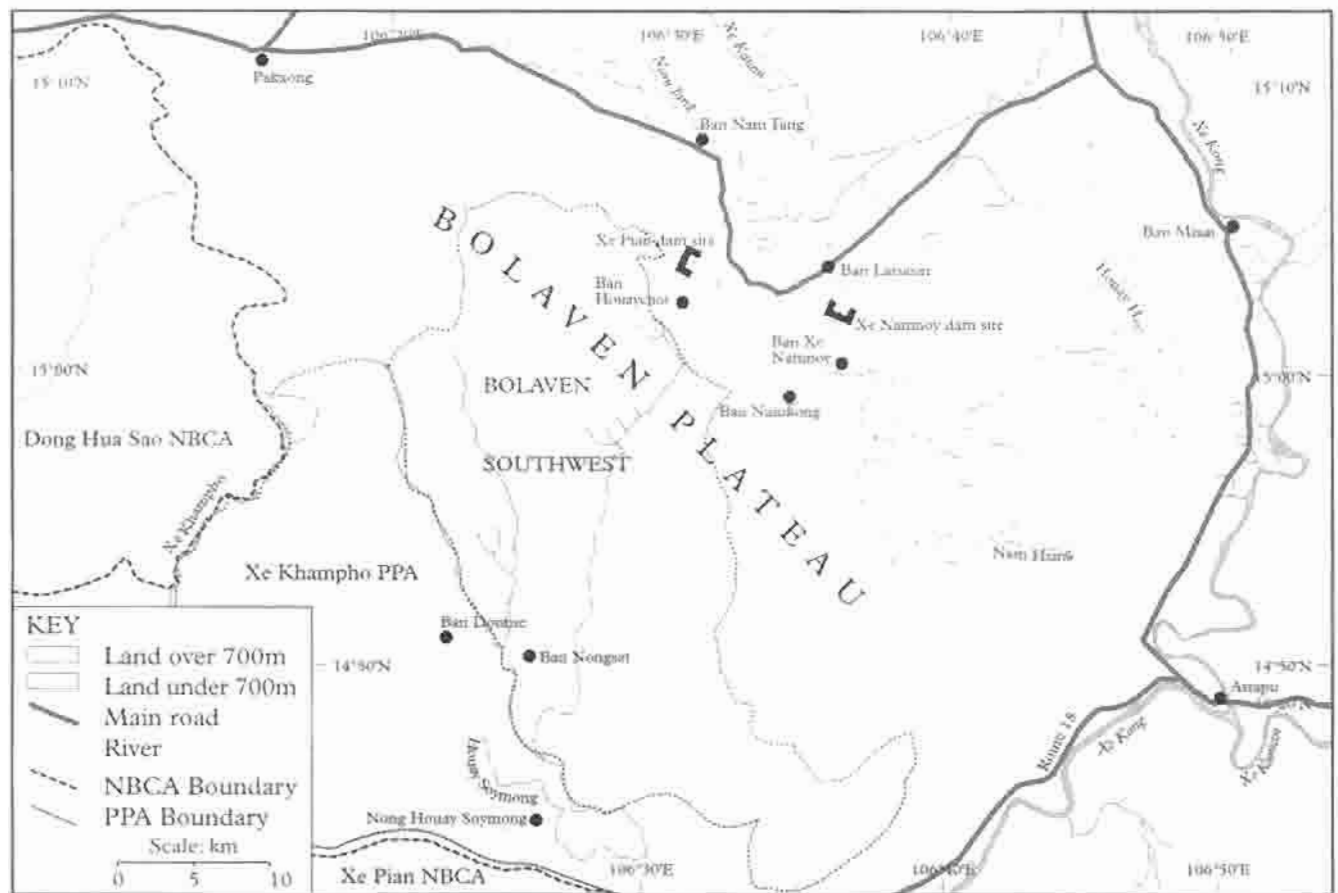


Figure 3. Bolaven Southwest Proposed Protected Area and Xe Namnoy basin

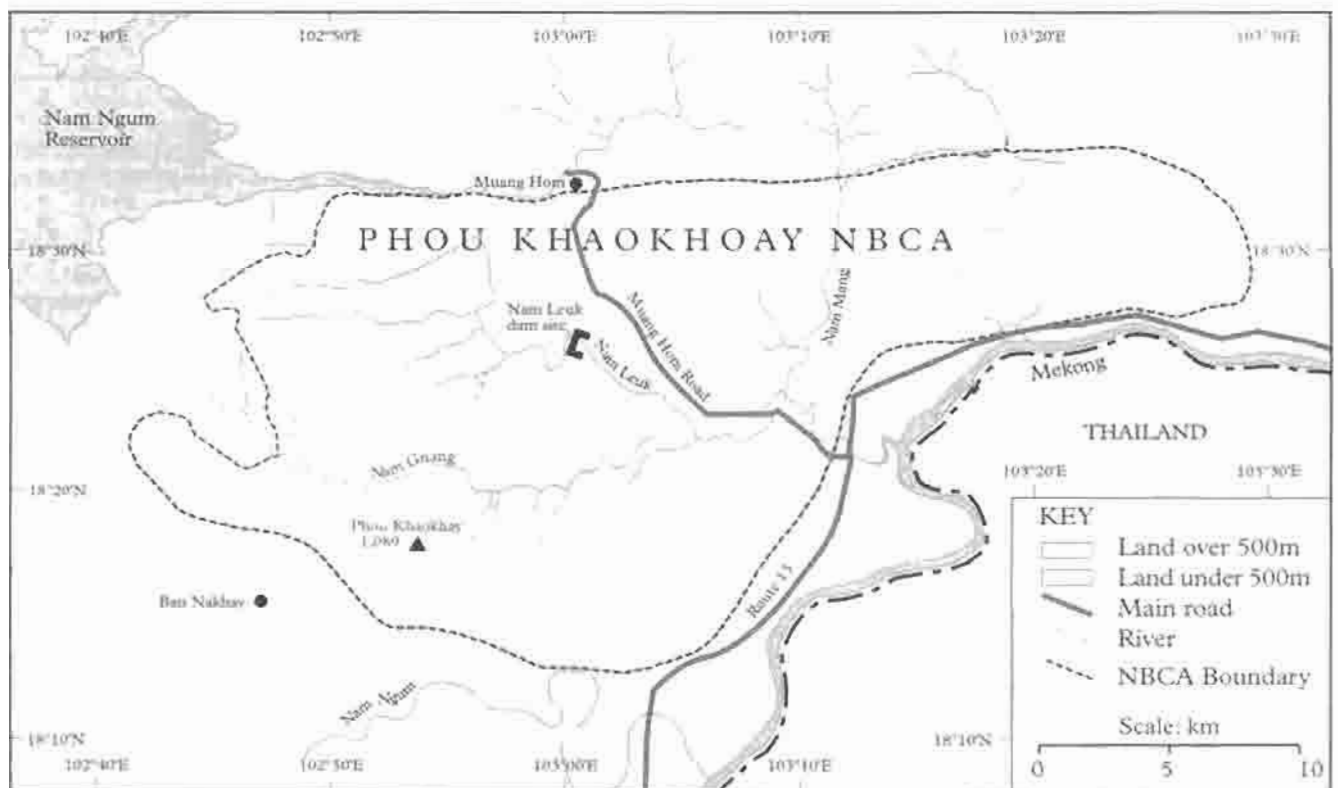


Figure 4. Phou Khaokhoay National Biodiversity Conservation Area

4. Ban Lak (28) at 180-400 m, where the mid-Laos limestones meet the non-calcareous Nam Kading NBCA. Sporadic roadside observations during December 1994 - March 1995 were made along the road, which runs beside a stream through little degraded forest on steep limestone slopes. The valley area around the village of Ban Lak (28) has been degraded.

8. Degraded habitats in the Nam Hai - Nam Hinboun plain (Central Laos). Observations totalling two person days, on 10 December 1994 and 13-21 May 1995, came mainly from the Nam Hai from Ban Namsanam downstream to the Nam Hinboun and the Nam Hinboun river from Tam Hinboun downstream to Ban Songhong.

14. Degraded forest around the Nam Theun upstream of Ban Katok to upstream of Keng Luang, and along the lowest 2 km of the Nam Ngoy (400-450 m) visited on 12 and 25-26 January 1995. These forests are separated from those lower down the Nam Theun by extensive scrub. The surveys were partly from boats. This area is on the border of North and Central Laos, with most observations coming from Central Laos.

There was no previous ornithological work in the Nam Kading area.

#### **Limestone areas of mid-Laos. Fig. 2. See WCS (1995d).**

Two main areas were visited (Fig. 1).

1. Khammouan Limestone NBCA, Central Laos (17°26'-18°05'N 104°25'-105°10'E): 13-21 May 1995.

The Khammouan Limestone NBCA covers 1,620 km<sup>2</sup>, mostly of sparsely-vegetated karst at 180-850 m, with pockets of tall forest in depressions in the rock. It is part of an extensive belt of limestone outcrops stretching from Central Annam (Vietnam) to north of the Nam Hinboun. Tall lowland forest in the east-centre of the NBCA is contiguous with the Nakay Plateau. Parts of the area up to 600 m were visited from three points along its north-west edge.

This area was visited early this century and the several important ornithological findings included the discovery of Sooty Babbler (Baker 1920, 1921, Robinson and Kloss 1931, Williamson 1945).

2. Nadi Limestone, North Laos, and Sayphou Loyang Limestone, Central Laos: 4-9 May and 12-13 May respectively.

These two areas, similar in habitat and altitude (mainly above 600 m, exceeding 1,600 m in places and thus rather higher than the Khammouan Limestone NBCA), are part of over 1,500 km<sup>2</sup> of karst and other limestone hills. Dry valleys and small stream valleys stretch from north-west of the Nam Mouan to a little east of Ban Lak (20). This limestone area is separated from the main mass in Central Laos by the Nam Theun drainage and extensive non-calcareous ridges. The valleys within it are largely degraded. The karst supports irregular patches of forest and of natural and human-induced scrub, with tall forest in depressions. Sayphou Loyang consists of a long karst outcrop running NW-SE from Ban Lak (20). This block is separated from other limestone of similar origin to the north by the Nam Grouang. The Nadi outcrop, one of the largest, retains some of the best forest and is contiguous with the Nam Ao forest.

The Nadi limestone was entered from Ban Nadi and six days were spent traversing it. Sayphou Loyang was visited from Ban Phoung (along Route 8) for part of two days.

The Nakay Plateau, Central Laos (17°37'-59'N 104°57'-105°35'E): 30 January - 17 March 1995. See Timmins and Evans (1996), WCS (1995a).

The 1,250 km<sup>2</sup> Nakay Plateau (see figure in Evans and Timmins 1997) supports a mosaic of pine and broadleaf evergreen forest at 500-600 m. The area is mainly flat with hillocks (dominated by broadleaf forest) occurring particularly in the east. The Nam Theun and its many tributaries have extensive riverine evergreen forest (e.g. along the Nam Mon, a tributary of the Nam Xot). Pools and marshes are numerous only in the central Plateau, most of which is heavily settled and degraded.

Human pressure is increasing rapidly in intensity and area of influence, in association with extensive logging operations. About a third of the Plateau is within the Nakay-Nam Theun NBCA; much of the remainder was until recently of equal biological value. The Nam Theun 2 hydropower project is scheduled to inundate much of the Plateau. To the south, the Plateau drops away sharply to the heavily settled Ban Gnommalat lowlands; elsewhere it meets little-degraded hill forest of the NBCA. The 1995 survey investigated the possible impacts of the Nam Theun 2 dam, and most observations were made along rivers by boat or on foot. Thus, many forest-interior species found on the Nakay Plateau in 1994 were not observed in 1995.

Parts of the Plateau were surveyed in greater depth in 1994 along with other areas of the Nakay-Nam Theun NBCA; the Plateau was found to support important wildlife communities different from the rest of the NBCA (Timmins and Evans 1996). Previous work was reported from the region by Delacour (1929a) and Dickinson (1970a).

#### **Phou Khaokhoay NBCA, North Laos (18°14'-34'N 102°44'-103°29'E): 26 October - 12 November 1994; 30 April - 1 May 1995. Fig. 3. See WCS (1995e).**

Phou Khaokhoay NBCA (Fig. 3) covers 1,390 km<sup>2</sup> at 200-1,700 m (mostly 200-1,000 m). Originally most of the NBCA supported broad-leaved evergreen forest mixed with large stands of pine. Many areas of several hundred metres across, where the underlying rock is covered by only 2.5-5 cm of soil, support vegetation akin to dry dipterocarp forest. Extensive logging by State Forest Enterprise 3 during the 1980s means that secondary forest and bamboo are extensive; primary forest survives mostly on steep slopes. The NBCA is within two hours' drive of Vientiane; hunting is heavy and even remote parts show evidence of frequent incursion.

Two main areas were visited in autumn: the Muang Hom road around the turn to the Nam Leuk dam and the dam site itself (where logging had been heavy); and the central Nam Mang, where habitat was little degraded. Brief observations in a variety of degraded areas included the headquarters complex and the lower Nam Mang. All observations were below 650 m. A brief spring visit was made to Ban Nakhay, an area at 400-500 m of dry dipterocarp forest on sandstone adjacent to cultivation with pools at 200 m.

The survey was a brief reconnaissance with most time devoted to activities other than bird surveying. The site was also visited briefly in 1993 (Thewlis *et al.* 1996) and early 1994 (Evans and Timmins 1997).

**Xe Namnoy hydropower scheme, area of effect, South Laos (14°55'–15°15'N 106°32'–50'E): 25 March – 23 April 1995; 5–12 May 1995. Fig. 4. See WCS (1995b).**

The proposed Xe Namnoy dam, on the south-east of the Bolaven Plateau, is 4 km upstream of Ban Latsasin at 770 m altitude. A secondary dam across the Xe Pian, diverting flow to the Xe Namnoy, is likely. Investigations into the area of this project (Fig. 4) involved:

1. the inundation zones on the Plateau, which are relatively small;
2. extensive further areas on the Plateau to be affected by infrastructural development and changed human use and settlement;
3. the two rivers downstream of the dams, where flow patterns will change.

The Bolaven Plateau provides submontane and montane conditions but is surrounded by lowlands. Most of the Plateau surveyed west of the Xe Namnoy is deforested and under a mosaic of cultivation, scrub and relict forest patches. Dry coarse grassland covers much of the south-east of the Plateau, with forest patches remaining especially in valleys. Forest in the area is tall and luxuriant and its boundaries do not always correlate with obvious natural features. This suggests that the grassland, which resembles David-Beaulieu's (1944: 7, 28, 32–33) description of the Tranninh plateau (North Laos) is of artificial origin (as believed by David-Beaulieu). It is not a result of defoliation during the Indochinese wars; Engelbach (1932) referred to the 'grandes plaines herbeuses à l'est de Paksong'. The Nam Hiang area supports a complex of streams and marshes surrounded by relict forest patches and extensive scrub. Pine forests are best developed in the study area towards the edge of the escarpment at 950–1,050 m, and seem not to have been logged, although this is apparently likely in the future.

The escarpment and the middle reaches of the Xe Namnoy support semi-evergreen forest with extensive mixed deciduous forest. The middle Xe Pian flows through extensive lowland semi-evergreen forest. The escarpment forests appear to be nearly contiguous and, although only 2–5 km wide, may be an important wildlife corridor between the Xe Pian and the upper Xe Kong basins.

A substantial distance down the Xe Pian river and onto the adjacent Xe Kong were surveyed. This area supports an exceptional number of large Key Species (Thewlis *et al.* 1996). The lower Xe Pian and the Xe Kong are lowland rivers with sandbanks, flowing across plains of dry dipterocarp forest (which were little visited) with a riverine forest association of mixed deciduous forest in some stretches and semi-evergreen forest in others.

There are some non-flowing wetlands, some permanent, on the plateau, and a high density around the middle and lower Xe Pian. Most are heavily used by people and are therefore, although significant, probably of reduced importance to birds. The most important concentration is between the Xe Pian and the Xe Khampho.

The upper and middle Xe Pian lie in the Bolaven Southwest Proposed Protected Area. The lower Xe Pian and the adjacent Xe Kong fall inside the Xe Pian NBCA. The Xe Namnoy catchment and escarpment are not proposed for national-level protection.

Extensive previous work on the Bolaven Plateau (Engelbach 1927, 1929, 1932; Delacour 1932; Thewlis *et al.* 1996), seems not to have included this area. Other than

Xe Pian NBCA, which was surveyed in 1992–1993 (Thewlis *et al.* 1996), the lowlands surveyed in 1995 appear not to have been visited before.

Phou Dendin NBCA, North Laos (21°40'–22°18'N 102°00'–40'E); 23 May – 3 June 1995. See Robichaud and Boonhom (1995).

This NBCA of 1,310 km<sup>2</sup>, near the northern tip of Laos, is mountainous (60% of the area is above 1,000 m and all exceeds 500 m) and lacks roads or large human settlements. Small villages are scattered within the NBCA, the inhabitants of which practice hillside slash-and-burn cultivation. Large portions of the reserve, particularly along the Nam Ou above the inflow of the Nam Khang, are uninhabited and covered in slopes of unbroken evergreen or semi-evergreen forest.

This reconnaissance survey involved insufficient field effort to characterize the area's bird communities, but the information is of high importance as this is the first recent survey of an area much north of the Nam Kading. Significant records were also made adjacent to the NBCA along the lower Nam Ou and on Phou Fa mountain above the town of Phongsali.

Birds were collected widely in North Laos including at Phongsali and an area known as 'Pou Den Dinh' in April–June 1929 (Bangs and Van Tyne 1931). The latter was described as in Tonkin (Vietnam), 'close to the border of Laos ... on the divide between the valley of the Mekong and the Rivière Noire', Phou Dendin (which means 'border area mountain'; Venevongphet verbally 1995) today refers to the mountain range forming the watershed between the Mekong and Red River catchments; much of the region is thus in Vietnam, although the NBCA is entirely within Laos. Even in the 1920s, the area was extensively deforested, and specimen collection appears to have been mainly in such habitat. The area may also have been covered, albeit briefly, by F. R. Wulsm in 1924, although, at least by 1931, his collection had not been written up (Bangs and Van Tyne 1931). Other important works from this region, although not dealing with the NBCA, are Robinson and Kloss (1931), Delacour and Greenway (1940a) and Dickinson (1970a).

### Other sites visited

Sites 1, 3, 5 and 7 are degraded areas with no natural habitat nearby.

1: Vientiane (North), sporadic dates during October 1994–August 1995. Most observations came from the Mekong, especially around Don Chuan sandbank, and the residential part of the town around Wat Nak. Although Vientiane is the capital of Laos, it seems never to have hosted a resident ornithologist in the way that some provincial towns did (Engelbach 1932, David-Beaulieu 1944, 1949–1950). An important collection by Bangs and Van Tyne (1931) reported as 'Vientiane' came from Ban Thangon, some 20 km to the north. Thus, the discovery in Vientiane in 1992–1993 of two species new to Laos (Bright-headed Cisticola and Citrine Wagtail; Thewlis *et al.* 1996), with a third (Ruddy Shelduck) reported below, is less surprising than it at first seems. Robinson and Kloss (1931) reported some collection from this stretch of river.

2: Vangviang (North), 26–27 November 1994. Records come mainly from agricultural land, scrub and the base of the limestone cliffs; neither the cliffs nor any forest were penetrated. Thewlis *et al.* (1996) gave some records from Vangviang.

- 3: Pakxan wetlands (North), 20 December 1994. Records come from the surroundings of the old airport, at the fringe of the Pakxan wetlands, for which some records are given by Salter (1993).
- 4: Ban Lak (28): see site account for Nam Kading NBCA and surroundings.
- 5: Ban Thadua (North), sporadic dates between October 1994 and August 1995. Birds collected from this stretch of river (mostly labelled 'Nong Kai', which is taken to be the town of Nong Khai on the south (Thai) bank of the Mekong) were reported by Robinson and Kloss (1931).
- 6: Houay Nhang (North), 1-4 February 1995. Thewlis *et al.* (1996) described this site and reported on a one-month bird survey.
- 7: Thakhek town (Centre), 21 December 1994 and 24 April 1995.
- 8: Nam Hai - Nam Hinboun plain: see site account for Nam Kading NBCA and surroundings.
- 9: about 40 km south of Ban Xeno (Centre), 4 May 1995.
- 10: Nakay-Nam Theun NBCA (Centre), 16-17 March 1995. All records came from 1,000-1,100 m in evergreen forest along a the Ban Navang logging road in the Central Mountains.
- 11: forest and areas of scrub between the Xe Kong and Xe Kuman, north-east of the town of Attapu (South), from Ban Paam (27 km NE of Attapu) to Muang Sansai at 115-920 m, and including a stretch of lightly wooded plain between Ban Paam and Ban Touay (14 km NE of Attapu), 5-10 December 1994.
- 12: Nam Souang Reservoir, 6 April 1995. The reservoir had very little emergent vegetation or marshy margin.
- 13: the Mekong at Chiang Saen, Thailand, 11-12 December 1995. Only species on the Lao side of the international border are listed.
- 14: degraded forest along the Nam Theun around Keng Luang and the Nam Ngoy: see site account for Nam Kading NBCA and surroundings.
- 15: the Nam Theun and Nam Noy rivers in the Dividing Hills and Interior Tasaengs of Nakay-Nam Theun NBCA (see Timmins and Evans 1996), 22 February - 1 March 1995.

## METHODS

Most fieldwork was opportunistic to allow as many species as possible to be found. Observers, often in the field from dawn until dusk, generally worked singly. Sites concentrating bird activity, particularly pools and fruiting trees, were watched for prolonged periods. Birds flying above the canopy were surveyed from river banks, glades or clearings. Observation by night was more restricted than by day; some such work was performed at all main sites except at Phou Dendin. Unknown calls by day or night were sometimes tape-recorded for later identification.

Boat-based surveys were undertaken, particularly on the Nakay Plateau, but also around Nam Kading NBCA, on the Nam Ou near Phou Dendin NBCA and on the Xe Pian and Xe Kong. Boats were usually paddled as engine noise made observation of shy species difficult. On a typical day 10 km of river were explored.

Information concerning certain large and distinctive quarry species (e.g. pheasants, vultures) was sought during *ad hoc* interviews with hunters and other villagers.

The differing balances of techniques and observers (of varying levels of local experience) between sites makes comparison of results in terms of effort, particularly with surveys of previous years, difficult.

An abundance was assigned for each species at each site. Common species were found daily; Frequent species were found on more days than not; Occasional species were found on fewer than half of days, and some were unlikely to have been regular members of the community. A well-studied sites Abundant is used to indicate that the species was particularly common. 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 being viewed in the subjective light of the ease of detection and identification of the bird, and the natural density range of the species.

## RESULTS

In total over 460 species were found (Appendix 1). This high total reflects both the wide geographical spread of surveys and the importance of several areas covered. Grey-sided Thrush and Black-headed Bunting were new to Indochina, and Ruddy Shelduck, Dunlin, Long-toed Stint, Pallas's Gull, Lesser Cuckoo and Chestnut-vented Nuthatch were new to Laos. In addition 12 species previously known from Laos were recorded for the first time from the North of the country, nine from the Centre, and five from the South. There were provisional records of one species new to each of the North and the South. Many Key Species were found (Appendix 1), including 15 Globally Threatened, 28 (plus one provisionally identified) Globally Near-Threatened, nine At Risk in Laos, two potentially so and one little known in Laos. Records of Key Species are detailed in Thewlis *et al.* (in prep.). Among 28 species recorded for the first time in Laos (including provisional records) in recent years, eight were from Phou Dendin. This was to be expected as it is about 380 km further north than any other recently surveyed site.

### *Nam Kading NBCA*

The Nam Kading NBCA supported a fine complement of evergreen forest species, reflecting its size and habitat condition. Some species typical of higher altitudes were recorded, particularly in the eastern NBCA at 360-800 m (Maroon Oriole, Orange-bellied Leafbird, White-throated Fantail, Snowy-browed Flycatcher, Small Niltava, Black-throated Sunbird), probably as a result of the steep terrain and proximity to the Annamites, which resulted in cold winter weather for the altitude. The high southern escarpment, at 900-1,050 m, supported further high-altitude species: Blue-naped Pitta, Rufous-faced Warbler, Grey Laughingthrush and Golden Babbler.

Along the access road to the Theun-Hinboun dam, forest bird communities seemed similar to those in the NBCA, reflecting the similarities in vegetation, and records from these areas are presented together in Appendix 1. Pha Khok also appeared similar to the NBCA. The Nam Ao forest supported a different mix of species, being important locally for Red-collared Woodpecker, Rufous-throated Fulvetta and Pin-tailed Parrotfinch (all Key Species) and others typical of lowlands (including Banded Kingfisher, Oriental Bay Owl, Banded Broadbill, Rufous-tailed Robin, Dark-necked Tailorbird and Scaly-crowned Babbler). The lower

Nam An valley (at 250 m) seemed to lack many mid-altitude species (e.g. Maroon Oriole) found elsewhere, but some lowland species (e.g. Scaly-crowned and Puff-throated Babblers and Ruby-cheeked Sunbird) which were scarce or absent elsewhere in the NBCA were common there. Overall altitudinal variation in bird communities was less than in other recently surveyed areas of Laos.

The edge of the Nam Hai - Nam Hinboun plain supports, at 180-300 m, the lowest altitude forest surveyed in the region and was the only place where Siamese Fireback was confirmed. Upstream and downstream of the NBCA, the Nam Kading, Nam Theun and major tributaries were heavily used by people and the adjoining habitat was degraded.

Some species' abundances (e.g. *Fulvettas Aleippe* and Fork-tailed Sunbird *Aethopyga christinae*; also *Tamias* squirrels) changed sharply between the Nakay-Nam Theun NBCA and Nam Kading NBCA. The disjunction was not caused by the river; it formed a north-south front perpendicular to the river between Ban Kengbit and the Nam Ngom and was unrelated to obvious changes in habitat and altitude.

Nam Kading NBCA is important for many Key Species. The largest numbers of Wreathed Hornbills recently seen in Laos were in the central part of the NBCA. Rocky stretches of river supported breeding-season Wire-tailed Swallow numbers equalled in recent surveys only in the Xe Kong catchment and Phou Xiang Thong NBCA. The population of Rufous-throated Fulvettas in the Nam Ao forest was among the densest recently found in Laos, with up to 20 groups found per day by each observer. Hundreds of Pin-tailed Parrotfinches were present in the same area; large numbers have been found recently at only one other site (Duckworth 1996). The NBCA provided the first recent Lao records of Long-billed Plover, Blue-naped Pitta and Pale-capped Pigeon and the first recent sighting outside Champasak and Attapu provinces of Darter. The lack of other large waterbirds in the NBCA, including fish eagles, may reflect a combination of hunting outside the NBCA and the fast flowing, rocky nature of the river. The Lesser Fish Eagles on the Nam Theun well upstream of the NBCA, around Keng Luang, are best regarded as outliers of the Nakay Plateau population. Nam Kading NBCA and surroundings are also nationally important for Blyth's Kingfisher, Yellow-vented Green Pigeon, River Lapwing, Small Pratincole, Fujian Niltava and Grey Laughingthrush.

Of the two hydropower projects proposed for the NBCA, the Theun-Hinboun project will affect the area mainly through decreased flow in the Nam Kading through the NBCA, while the Nam Theun 1 will flood large areas of the NBCA. Thus, the latter could not proceed without major detriment to the birdlife of the NBCA, while the effects of the former could be minimized by ensuring an adequate flow downstream into the Nam Kading during the dry season. The joint effects of the two projects, if both are built as planned, in combination with others proposed for the catchment, is uncertain.

#### *Limestone areas of mid-Laos*

Two bird species in Laos seem restricted to limestone areas: Sooty Babbler and Limestone Wren Babbler. Dusky Crag Martin shows a weaker association. The wren babbler was not found in the limestones of mid-Laos (although it was found at Vangviang), while Sooty Babbler was found in Khammouan Limestone NBCA. The martin was found widely.

The limestones of Khammouan Limestone NBCA and of Nadi - Sayphou Loyang probably supported different bird communities, perhaps due to differences in altitude, and for a few species, their geographical separation. Bird species richness was higher in the pockets of tall forest in depressions in the rock, than in open rock or scrub areas. Several other bird populations of national importance (from totals of one and four Key Species in the two areas respectively) were found. Green Cochoa, only otherwise found commonly in Laos on the Bolaven Plateau, was locally common. A form of leaf warbler *Phylloscopus* in the Nadi limestone has not yet been identified.

#### *The Nakay Plateau*

The Nakay Plateau supported a wide range of birds including many Key Species. There are several reasons for this: until recently the Plateau supported a diverse mosaic of structurally well-developed forest which was sparsely populated by people; it is a flat area intermediate between lowland and montane habitats; and the riverine habitat is of lowland character with wide, sluggish rivers flowing through a sedimentary basin with numerous slow backwaters. The broad-leaved forests were moderately species rich and contained a mix of predominantly lowland species and hill birds, but the area is high enough to be of only marginal importance for strict lowland birds such as Red-collared Woodpecker, Banded Kingfisher and Banded Broadbill. None of the few pine specialists of South-East Asia was found. There was a rich community of riverine birds, but other wetlands were heavily used by people and no scarce waterbirds were seen. Good numbers of common migrant ducks and waders used the larger complexes, notably Nong Boua (north-west of Nakhom N3), where a few hundred each of ducks and waders were observed. The Plateau seems to have higher numbers of passage raptors than other sites so far surveyed in Laos.

In total, 26 Key Species are known from the Nakay Plateau, with provisional records of a further five: five of these 31 species (Siamese Fireback, Tawny Fish Owl, Black Kite, Greater Spotted Eagle *Aquila clanga* and Yellow-vented Warbler) were found or suspected to be present in 1994 but were not recorded in 1995, and one, Green Peafowl, has probably become extinct in the last five years. The small numbers of White-winged Ducks on the Nakay Plateau form one of only two populations known in Laos (Evans *et al.* 1997). The Nakay Plateau is the only Lao site with recent records of Wood Snipe, Grey-sided Thrush and, provisionally, Greater Spotted Eagle. The only other Yellow-vented and White-bellied Green Pigeons, Pied Falconets, White-winged Magpies and Fujian Niltavas found recently in Laos were elsewhere in the Nam Theun catchment. Plateau populations of Brown Hornbill, Blyth's Kingfisher, Coral-billed Ground Cuckoo, River and Grey-headed Lapwings are the healthiest known in Laos. Populations of Green Imperial Pigeon, Lesser Fish Eagle and Rufous-throated Fulveta are also of high national importance. Mountain Hawk Eagle and Grey Treepie, both common on the Plateau and its surroundings, have not been found elsewhere in Laos recently in significant numbers. Black-breasted Thrush has been recorded recently at only one other site (Dymond in Robson 1996).

The Nam Theun 2 dam proposes to flood a large area of Plateau forest, particularly riverine habitat. If the project proceeds, severe detrimental impacts on the birdlife are unavoidable.



*Phou Khaokhoay NBCA*

Phou Khaokhoay NBCA has a high proportion of degraded forest, is close to Vientiane and supports high levels of hunting; these factors seem to have impoverished the bird community. Almost all observation was below 550 m and the only species seen not typical of lowlands were Striated Yuhina and Black-throated Sunbird; others doubtless occur. Secretive yet vocal species (such as Grey Peacock Pheasant, barbets, cuckoos, nightjars and broadbills) were difficult to survey because they call much less frequently at the time of this survey, the early dry season, than in the later in the dry season when the other areas discussed here were surveyed.

Nine Key Species were found (with provisional records of a further two). Green Peafowl is exceptionally threatened in Laos (Evans and Timmins 1996) and its persistence is surprising considering the absence of other large birds susceptible to hunting. The two sightings of fish eagles also seem anomalous; these birds, recorded in November, were perhaps dispersing individuals. The frequency of sightings of Malayan Night Heron in the Nam Leuk area (three in four days) is noteworthy and Phou Khaokhoay NBCA is one of few sites outside the Xe Kong basin with recent Lao records. Some birds, which were expected on grounds of habitat, were recorded infrequently or not at all, including pheasants, many woodpecker species, Brown, Wreathed and Great Hornbills, many pigeons, large raptors, large waterbirds and pittas. Although six species of large raptor were seen, most were migratory species. Crested Serpent Eagles are likely to be resident in the area, although they too have migratory populations.

*Xe Namnoy hydropower scheme area of influence*

## (a) Areas not designated for protection

The surveyed area of the Bolaven Plateau, although largely degraded, supported isolates of natural forest and some important birds. It is lower than some surveyed parts of the nearby Dong Hua Sao NBCA (750-950 m compared with 1,000-1,200 m) and many montane birds were seen only sporadically or much less frequently than at Dong Hua Sao (Grey-chinned Minivet, Green Cochoa, Yellow-cheeked Tit, Mountain Bulbul, Chestnut-crowned Warbler, Golden Babbler, Silver-eared Mesia, White-browed and Black-eared Shrike Babblers and Blue-winged Munia; see Thewlis *et al.*, 1996), suggesting that they were close to their lower altitudinal limit. For some, the lack of extensive forest may also have been important. Other montane species common in similar habitat in Dong Hua Sao NBCA went unrecorded (Stripe-breasted Woodpecker *Dendrocopos atratus*, Large Niltava *Niltava grandis*, Small Niltava, Flavescent Bulbul *Pycnonotus flavescoens*, White-tailed Leaf Warbler *Phylloscopus davisoni*, Red-tailed Laughingthrush *Garrulax nimbica*, Red-billed Scimitar Babbler *Pomatorhinus ochraceiceps* and Rufous-winged Fulvetta *Aleippe castaneiceps*). Conversely, some predominantly lowland species occurred, most notably good populations of Grey-faced Tit Babbler and the highest recorded Siamese Firebacks in Laos.

The open grassy areas of the Plateau supported few species that were mostly common, widespread birds. An unidentified shrub in heavy fruit during April grew extensively in and around Nam Hiang and supported many frugivorous birds, particularly passage flycatchers (Asian Brown, Mugimaki, Red-throated and Blue-and-white being the most numerous). The pine forests were probably the richest surveyed recently in Laos, with the only records of

Slender-billed Oriole and Chestnut-vented Nuthatch. The scarp, surveyed in only a few places, supported a mix of lowland and Plateau birds.

Blue-throated Flycatcher of the race *C. r. klassi* (known only from parts of Annam and Laos; Delacour and Jabouille 1940) has been found recently in Laos only on the Bolaven Plateau and its slopes; one of a migrant race was seen in Phou Xang He NBCA in 1993 (Thewlis *et al.* 1996). Most or all recent Lao records of Black-browed Barbet, White-cheeked Laughingthrush and Spot-throated Babbler come from the Bolaven. Nepal House Martin has been found only in two other areas.

Wire-tailed Swallow was found in good numbers on the Plateau, Black-throated Tit was common, even in the extensive cultivation and successional habitat around Ban Nam Tang. It has been found recently at only two sites away from the Bolaven. Pale-capped Pigeon is known from only one other site (Nam Kading NBCA). Small but significant populations of Siamese Fireback and Blyth's Kingfisher were confirmed. The Xe Namnoy lowlands held a moderately important assemblage including Siamese Fireback, White-bellied Woodpecker, Yellow-footed Green Pigeon, Lesser Fish Eagle, Rufous-winged Buzzard, Wire-tailed Swallow and Golden-crested Myna. However, the area is quite small and its lower reaches are heavily disturbed. River Lapwing and Small Pratincole were found on the adjacent stretch of the Xe Kong.

## (b) Bolaven Southwest PPA and Xe Pian NBCA

The larger and more varied lowlands of Bolaven Southwest PPA and Xe Pian NBCA supported more Key Species and in larger populations than did the Xe Namnoy lowlands. All those in the lower Xe Namnoy were confirmed with, in addition, Alexandrine Parakeet, White-rumped Vulture, Red-headed Vulture and (in 1993, Long-billed Vulture *Gyps indicus*), Malayan Night Heron, Bar-bellied Pitta and Indochinese Green Magpie, with Pied Kingfisher and River Tern on the Xe Kong within Xe Pian NBCA. The density of Green Imperial Pigeons on the lower Xe Pian was the highest recently found in Laos. Most importantly, further information was gathered on the richest assemblage of large waterbirds known in Laos, Masked Finfoot, Grey-headed Fish Eagle, Black and Giant Ibises, Woolly-necked Stork, Lesser Adjutant and, in 1993, Sarus Cranes have only been recorded recently in Laos with certainty from Xe Pian NBCA, adjacent parts of the same catchment and the Dong Kanthung PPA. Darter is known from only one site outside this area. Only one other population of White-winged Duck is currently known in Laos (on the Nakay Plateau). The presence of Giant Ibis is particularly notable (Thewlis and Timmins 1996).

The most important deleterious effect on birds of the Xe Namnoy hydropower scheme is the flow reduction in the Xe Pian. This could be countered by a deliberate release of water from the dam.

*Phou Dendin NBCA*

A good selection of Key Species was found in the forests of Phou Dendin NBCA considering the brevity of the visit (under two weeks, much of which was not spent in the field) and rainy weather. Populations of Crested Kingfishers and Lesser Fish Eagles on the Nam Ou and tributaries were the densest recently found in Laos and Brown Dippers were also in good numbers. Sandbars and associated birds (e.g. River Lapwing) were poorly represented.

Lesser Cuckoo was recorded for the first time in Laos and White Wagtails were found breeding for the first time.

## SELECTED SPECIES ACCOUNTS

The status of all species is recorded in Appendix 1. Details are given below for species new to Laos or where the 1994-1995 records represent a range extension (into North, Central or Southern Laos), a clarification of altitudinal or seasonal status, or the first record(s) since 1950. All apparent range extensions when compared with records in King *et al.* (1975), Thewlis *et al.* (1996) and Evans and Timmins (1997) are discussed, even if earlier records had been overlooked. Although other bird observations have been made in Laos during 1992-1995, we have not seen any published results other than Salter (1993 and unpublished trip reports referenced therein), Asian Wetland Bureau mid-winter waterfowl count results and the two citations above, and the significance of records is assessed in this light. Details are also presented for some species which would be predicted from their status in Thailand (see Boonsong and Round 1991) to be common and widespread in Laos, but which recent surveys have revealed are local, scarce, or even unrecorded.

For many species, records from only some of the sites where it was found are of special interest; thus, the absence of a site from the species account does not imply that the species was not recorded there. Species where all records are discussed are asterisked (\*).

\***BLUE-BREASTED QUAIL** *Coturnix chinensis* A female in a marshy open area at Phou Khaokhoay NBCA on 29 October is the first recent record from Laos, although unidentified quails were seen at Xe Pian NBCA in 1993 (Thewlis *et al.* 1996). Historically the species occurred throughout Laos (Delacour and Jabouille 1940) and was common in Tranninh and perhaps Savannakhet (David-Beaulieu 1944, 1949-1950).

\***RUDY SHIELDUCK** *Tadorna ferruginea* One in moult on a Mekong sandbar in Vientiane on 11 February and three on the Mekong opposite Chiang Saen on 11-12 December 1995. Mlikovsky and Inskipp (in prep.) traced no records from Laos and it is rare in Thailand (Boonsong and Round 1991); Delacour (1929b) categorized it as a rare winter migrant to northern Indochina.

\***BARRED BUTTONQUAIL** *Turnix suscitator* Two singles (and many buttonquails probably of this species) at Nam Hiang (Bolaven Plateau) in April. This is the first recent field observation in Laos (one was seen in a market in 1994; Evans and Timmins 1997), but unidentified buttonquails were seen at most sites surveyed recently (Thewlis *et al.* 1996, Evans and Timmins 1997). The species occurred throughout Laos (Delacour and Jabouille 1940) and was common in Tranninh and Savannakhet (David-Beaulieu 1944, 1949-1950). It was recorded on Phongsali (Bangs and Van Tyne 1931) and Salavan (Delacour and Jabouille 1931). Engelbach (1932) suspected that this species was common on grassy plains on the Bolaven Plateau, but could not confirm this.

\***BLUE-THROATED BARBET** *Megalaima asiatica* Barbets whose call matched this species in Thailand (P. D. Round verbally 1995) were heard widely in and around Phou Dendin NBCA. These are the first recent records from

Laos. Historically, it was recorded from various sites in North Laos (Oustalet 1899-1903, Delacour and Jabouille 1927, Delacour and Greenway 1940a), where it was considered to be the commonest barbet by Bangs and Van Tyne (1931). David-Beaulieu (1944) found that although it was abundant in Tranninh around 1,100 m, it was never found in lower areas and was rare in the mountains.

**BLYTH'S KINGFISHER** *Alcedo hercules* A single along a small forested stream near Ban Nam Tang (Bolaven Plateau) on 20 April and two unconfirmed sightings elsewhere on the Plateau. Historically the species was only recorded in Laos from the North (King *et al.* 1975), but in 1994 the species was found in Central Laos (Evans and Timmins 1997), as it was in 1995. The known distribution in Vietnam has also been greatly extended (Robson *et al.* 1993b).

**BLUE-EARED KINGFISHER** *Alcedo menningi* One on several days on the Nam La (Phou Dendin NBCA) at 630 m. The species was recorded historically in Laos only from the north-west (King *et al.* 1975), but Thewlis *et al.* (1996) found the bird commonly in South and Central Laos. It also appears to be commoner in Vietnam than would be expected from historical records (Robson *et al.* 1989).

\***ORIENTAL DWARF KINGFISHER** *Ceyx erithacus* Singles in the Nam Ao forest (Nam Kading NBCA) on 28 April, in the Nadi Limestone on 5 May and near Ban Nongset (Bolaven Southwest PPA) on 17 April. Other recent records are of singles at Houay Nhang on 12 November 1992 and in Xe Pian NBCA on 9 December 1992 and on 8 May 1993, while birds were locally common in Phou Xang He NBCA in April 1993 and Dong Hua Sao NBCA in May-July 1993 (Thewlis *et al.* 1996). Historical Lao records all came from north-east Laos. David-Beaulieu (1944) recorded a single in April, a pair in May and three undated singles in Tranninh; he categorized it as resident in the province. Elsewhere, singles were recorded at Ban Muangyo in May and near Ban Boun-Tai in June (Bangs and Van Tyne 1931).

Considering all past and present records, birds are clearly scarce in winter (November - March), with a marked increase in records in April. The species's status during the rains (June - October) is as yet unclear. In Thailand it is a resident and winter visitor (Boonsong and Round 1991).

\***HODGSON'S HAWK CUCKOO** *Hierococcyx fugax* A single adult *H. f. nivicolor* in evergreen forest near Keng Maiha in early January and an immature in the Nam Ao forest (both Nam Kading NBCA) on 28 April. The only previous record for Laos is from the Xe Pian NBCA (South Laos) in March 1993 (Thewlis *et al.* 1996).

**ORIENTAL CUCKOO** *Cuculus saturatus* Calls were heard on 21 April at Nam Kading NBCA and, provisionally, on 8 May at the Nadi Limestone (both about 800 m). King *et al.* (1975) were unsure of the species's status in Indochina and the only previous records from Laos are from the Central region in 1994 (Evans and Timmins 1997).

\***LESSER CUCKOO** *Cuculus poliocephalus* One was tape-recorded on 3 June in secondary forest at 1,635 m on Phou Fa mountain (Phou Dendin NBCA). Mlikovsky and Inskipp (in prep.) traced no previous records from Laos.

**CORAL-BILLED GROUND CUCKOO** *Carpococcyx renauldi* Heard along the Nam Mang on 7 November (Phou Khaokhoay NBCA) and 1-3 recorded (mostly heard) in scattered localities throughout Nam Kading NBCA,

including the Nam Ao forest. These are not the first records from North Laos, as, although King *et al.* (1975) excluded this area from the species's range, it was found in Tranninh by Delacour and Jabouille (1927).

**FORK-TAILED SWIFT** *Apus pacificus* Common in the surveyed parts of North and Central Laos between February and May, but birds were not seen along the Nam Kading in December and the irregular records in January involved only small numbers. However, at Ban Kengbit (Nam Kading NBCA) in March and April these swifts were common and many pairs were chasing and displaying. Small groups circled and visited ledges in the ceiling of a cave in Khammouan Limestone NBCA and beneath a large limestone overhang along the Nam Hinboun in April - May. Movements of many hundred birds on the Nakay Plateau in late February and early March were not in a consistent direction. In the South, parties of five and 30 respectively were observed on 13 April and 10 May along the Xe Pian; none was recorded in this region during November 1992 to March 1993 (Thewlis *et al.* 1996).

In North Laos *A. p. cooki* is resident, although subject to irregular movements (David-Beaulieu 1944). Its white rump patch is strongly streaked black (Robinson and Kloss 1931) and narrower than on other races (Boonsong and Round 1991); it can be surprisingly inconspicuous in the field. Care is needed when searching for Dark-rumped Swift *A. acuticauda*, a possible vagrant to Laos. David-Beaulieu (1949-1950) did not determine the subspecies of birds from Central Laos. Delacour (1929b) considered that all the swifts made erratic movements rather than being true migrants.

**PALE-CAPPED PIGEON** *Columba punicea* Two together in evergreen forest in eastern Nam Kading NBCA on 7 January and a group of 4-5 at Nam Hiang (Bolaven Plateau) on 13-17 April are the first recent Lao records. Those in Nam Kading NBCA are the first from the North; previous records came only from the South (see Thewlis *et al.* in prep.).

**YELLOW-VENTED GREEN PIGEON** *Treron seimundi* Seven in a fruiting fig near Keng Maha on 28 December. One shot on 4 January at a fruiting tree 3 km south of Ban Kengbit (Nam Kading NBCA). These are the first records from North Laos. The only previous Lao records are also from the Nam Theun catchment in 1994 (Evans and Timmins 1997) and 1995.

**WEDGE-TAILED GREEN PIGEON** *Treron sphenura* Two at the Ban Navang logging road (Nakay-Nam Theun NBCA) on 17 March. There appear to be only two historical records from Laos; a male on the Bolaven (Engelbach 1932) and at Taloun (North Laos) where the species was considered frequent (Delacour and Greenway 1940a). The 1995 record is thus the first for Central Laos. Although Delacour and Jabouille (1931) predicted that the species would be found to occur widely in Laos, there is as yet no evidence for this.

**TAWNY FISH OWL** *Ketupa flavipes* Feathers found at Keng Luang (upstream of Nam Kading NBCA) in January were compared with specimens at BM(NH). This site is on the border of Central and North Laos; previous confirmed Lao records come only from the North, with provisional records from the South (Appendix 1; see Thewlis *et al.* in prep.) and Centre (Evans and Timmins 1997). This is the only confirmed recent record of the species from Laos; field sightings have not been identified to species.

**SPOT-BELLIED EAGLE OWL** *Bubo nipalensis* Calls heard beside the Nam Mang (Phou Khaokhoay NBCA) in early November and at Ban Nam Tang (Bolaven Plateau) on 9 April fitted this species's call in Boonsong and Round (1991), but neither observer had heard the species previously. The only confirmed records in Laos come from the North (see Thewlis *et al.* in prep.).

**WOOD SNIBE** *Gallinago nemoralis* Singles beside main rivers of the Nakay Plateau on 8 (three) and 23 February are the only recent records from Laos and the first from Central Laos. Previous Lao records come only from the North: in Tranninh it was a scarce migrant between October and April (David-Beaulieu 1944).

**COMMON REDSHANK** *Tringa totanus* Two in a flock of 450 waders near Ban Don (Nakay Plateau) on 26 February were the first recorded from Central Laos. King *et al.* (1975) recorded this species in Laos from the North and South, but we have traced a historical reference only for the South, with no further details (Delacour and Jabouille 1940); the records in Perennou and Mundkur (1991) do, however, come from around Vientiane. The species is much scarcer in South and Central Laos than are Spotted Redshank, Common Greenshank and Wood, Green and Common Sandpipers (see Thewlis *et al.* 1996, Evans and Timmins 1997); Delacour (1929b) also considered it to be much rarer than these species in Indochina.

**BRONZE-WINGED JACANA** *Metopidius indicus* At least five on 30 April - 1 May at Ban Nakhay (Phou Khaokhoay NBCA) are the first published details from North Laos, the species being known previously from the South and Centre (King *et al.* 1975, Thewlis *et al.* 1996), although some or all records of the species in Perennou and Mundkur (1991, 1992) and Perennou *et al.* (1990) come from the North.

**LONG-TOED STINT** *Calidris subminuta* One on a Mekong sandbank opposite Chiang Saen on 11-12 December 1995. Mikovsky and Inskipp (in prep.) traced no previous records from Laos.

**DUNLIN** *Calidris alpina* One on a Mekong sandbank opposite Chiang Saen on 11-12 December 1995. Mikovsky and Inskipp (in prep.) traced no previous records from Laos.

**LONG-BILLED PLOVER** *Charadrius placidus* Two birds on 25 December - 3 January on a large island of coarse sand and gravel 2.5 km downstream of Ban Kengbit are the first recently recorded in Laos; past records are discussed in Thewlis *et al.* (in prep.).

**ORIENTAL PRATINCOLE** *Glareola maldivarum* One on a rock in the middle Xe Namnoy on 12 April is the first record from the South and only the second recent record for Laos. Previous records came from the North: three were seen 5 km north of Houay Nhang on 13 April 1993 (Thewlis *et al.* 1996) and it was common on passage through Tranninh (especially the Plain of Jars and Ban Lat-sen in April and May, the flocks (of up to 40) staying for a day or two (David-Beaulieu 1944).

The lack of records from Laos compared with Thailand, where the bird is very common in open country between February and October almost throughout (Boonsong and Round 1991) surely reflects a real difference in status. Oriental Pratincole seems to be a migrant to or through Laos, although it was considered resident, at least in the North, by King *et al.* (1975). Delacour (1929b) was unsure of the seasonal movements, but thought that it was probably a summer breeding visitor to Indochina.

\***PALLAS'S GULL** *Larus ichthyoides* An immature at Chiang Saen, Thailand on 11-12 December 1994 flew regularly over to the Lao side of the Mekong on both dates. Mlikovsky and Inskipp (in prep.) traced only one previous record from Indochina (Vietnam; Eames 1997) and it is a very rare visitor to Thailand (Boonsong and Round 1991).

**BLACK BAZA** *Aviceda leucophotes* On the Nakay Plateau sightings were much more frequent in March (one or more small flocks daily) than in early February (a single in eight days). The seasonality of this species in Laos is not clear (it is complex in Thailand; Boonsong and Round 1991), but this rise in numbers probably indicates a spring passage. Delacour (1951) recorded two races for Indochina, *A. l. leucophotes*, which breeds in the north, and *A. l. syama*, which is a winter visitor by implication to the entire area (although Laos is not specifically listed). The March peak presumably involved the latter and migration was directly observed nearby in the previous year: on 15 April 1994, a flock of 40 flew north over the Ban Navang logging road (Nakay-Nam Theun NBCA, 1,000 m; TDE own obs.).

Birds probably breed in Laos: on 7 March one of a flock of six over the Nakay Plateau engaged in a 'switchback' display similar to that of Northern Goshawk *Accipiter gentilis* (see Cramp and Simmons 1979). In June - July, birds were common in the lowlands of Dong Hua Sao NBCA in 1993 and Xe Bang-Nouan NBCA in 1994 respectively (Thewlis *et al.* 1996, Evans and Timmins 1997) and are presumably resident. *A. l. syama* may thus live in South and Central Laos as well as the North. The species occurred throughout the year in Tranninh (David-Beaulieu 1944), but other past observers in Laos did not comment on seasonality.

Stepanian (1990) observed a food-carrying, and thus presumably nesting, pair in southern Central Annam in April - May 1986; he collected a female in reproductive condition in the same area in January 1984 after observing two birds that appeared to be paired. Stepanian (1990) also considered that some former Indochinese records (in Robinson and Kloss 1919 and Bangs and Van Tyne 1931) in March - April were referable to breeding birds on the grounds of date alone, but our observations indicate that passage occurs in these months, and several flocks believed to be migrants were noted in Tonkin in April 1988 (Robson *et al.* 1989).

\***SHORT-TOED SNAKE EAGLE** *Circus gallicus* One flew south-east over Nam Mang (Phou Khaokhoay NBCA) on 11 November at 10h00. The only previous Lao record is from the South (Thewlis *et al.* 1996). The bird in 1994 had a strikingly pale underside including its head and neck. Birds are usually depicted with dark in this region (including in Boonsong and Round 1991), but skins at BM(NH) include many from Asia with uniformly pale underparts including only sparse, small, pale fulvous streaks.

\***HEN HARRIER** *Circus cyaneus* A second-winter male near Ban Bo-Tai (Nakay Plateau) on 11 February, with several Eurasian Marsh Harriers, is the first record from Central Laos. The only previous Lao records are from the North: one at Lat Houang, Tranninh, in December 1937 (David-Beaulieu 1944) and a male at Pakxan wetlands on 23 February 1989 (Salter 1993).

\***CHINESE SPARROWHAWK** *Accipiter soloensis* Singles near Ban Kengbit (Nam Kading NBCA, 1 January), Nong Paapak (2 km east of Ban Khonken, Nakay Plateau, 10 and 28 February), by the Xe Kong (Xe Pian NBCA, 6

May) and along Route 13 south of Xeno (4 May) are the first recent field observations in Laos and include the first from the South and the first confirmed from the Centre. Previous records came only from the North (singles at Xiangquang in April and September 1941; David-Beaulieu 1944) and perhaps the Centre (one in Ban Lak (20) market, Evans and Timmins 1997). The recent records suggest that, as believed by David-Beaulieu (1944), the species has been overlooked because of identification difficulties.

\***EURASIAN SPARROWHAWK** *Accipiter nisus* Singles near Ban Kengbit (Nam Kading NBCA) on 30 December and beside the Nam Xot 1 km downstream of Ban Namxot (Nakay Plateau) on 2 and 4 February are the first recent Lao records, albeit provisionally identified. Historical records came from scattered localities throughout the country in winter (Delacour and Jabouille 1927, Delacour and Greenway 1940a, David-Beaulieu 1944, 1949-1950). The lack of other recent records is surprising, although many accipiters have remained unidentified at most sites.]

**COMMON KESTREL** *Falco tinnunculus* A female on limestone cliffs at Vangviang on 27 November called repeatedly and flew with winnowing wings. A calling male was seen in similar habitat 4 km downstream on 26 November. These observations raise the possibility that the species breeds at Vangviang since, in Europe, such behaviour occurs mainly on the breeding territory and in the breeding season (Village 1990). Late in the year, resident raptors in Laos display frequently, e.g. accipiters were in aerial display at Vangviang (26 November), Phou Khaokhoay NBCA (11 November) and Nam Kading NBCA (26 December). Common Kestrel was believed by King *et al.* (1975) to be a migrant to South-East Asia. It is a migrant to Thailand (Boonsong and Round 1991) and historical sources (summarized in Thewlis *et al.* 1996) never documented breeding in Laos; however, Delacour and Jabouille (1931) categorized *F. t. saturatus* (which they recorded from Xiangquang) as a resident moving to lower altitudes in winter.

**ORIENTAL HOBBY** *Falco severus* One on 9 February over the Nam Xot (Nakay Plateau) is the first from Central Laos; other records, all of occasional small numbers, come from Tranninh (David-Beaulieu 1944), Xe Pian NBCA and Dong Hua Sao NBCA (Thewlis *et al.* 1996) and several sites in the Nam Theun catchment (Appendix 1).

**EGRETS** Ardeidae Several mixed flocks (many dozens strong) in March and April along the Nam Kading, Xe Pian and Xe Kong included mainly Cattle and Little Egrets and, particularly, Chinese Pond Herons, with occasional Great and Intermediate Egrets admixed. Many were in full breeding plumage. In such habitats, including at Nam Kading, only occasional pond herons had been seen during the winter.

Past resident observers made some comments on the seasonality of these species: in the South, Cattle Egrets made local movements at the end of the wet season and there was an important passage of pond herons in April and May (Engelbach 1932); large flocks of Little Egrets disappeared from the Savannakhet region during May (David-Beaulieu 1949-1950); egrets occurred most often in Tranninh during August - October, with Littles to the end of December, and flocks of Cattle occurring also in spring (but less commonly than in autumn), while pond herons were common on both passages and a few were found in the rest of the year (David-Beaulieu 1944).

**\*BLACK BITTERN** *Dipetor flavicollis* Several singles along the Xe Pian (Bolaven Southwest PPA) during 11-21 April. The only other recent records are of three singles in May 1993 in the Xe Pian NBCA and Dong Hua Sao NBCA lowlands (Thewlis *et al.* 1996). The only past records with detail from Laos are of two each in September and October in Tranninh (David-Beaulieu 1944), although Delacour and Jabouille (1940) recorded the species throughout Laos. The lack of recent records in other months, despite heavy field effort during October to March suggests that, as believed by David-Beaulieu (1944), the species is mainly a migrant in Laos.

**\*BLACK STORK** *Ciconia nigra* Seven soaring over the confluence of the Nam Mon with the Nam Xot (Nakay Plateau) on 10 February. The eastern population of Black Stork numbers only 2,000 and is declining (Perennou *et al.* 1994). Previous records from Laos are of infrequent birds (once a flock of about 10) on and around the Plain of Jars and near Xiangquang (Delacour and Jabouille 1940, David-Beaulieu 1944), three records (one of 17 together) around Ban Houayxai in December 1938 - January 1939 (Delacour and Greenway 1940a) and one immature over the Nakay Plateau on 28 February 1994 (Evans and Timmins 1997).

**\*BLUE-NAPED PITTA** *Pitta nipalensis* Three groups of 1-2 on the southern escarpment and upper Nam An valley (both Nam Kading NBCA) at 850 m are the first recent field observations in Laos, although market specimens were found in Ban Lak (20) in 1994 (Evans and Timmins 1997) and on 16 March 1995. Historical Lao records are discussed in Thewlis *et al.* (in prep.).

**\*HOODED PITTA** *Pitta sordida* Common at several sites in Phou Dendin NBCA, including close to villages. These are the first recent records from Laos; the species was previously known in Laos only by two taken at Ban Boun-Tai (North Laos) in May 1929 (Bangs and Van Tyne 1931).

**DUSKY BROADBILL** *Corydon sumatranus* Three groups were heard along the Nam An (250 m) during 16-20 April and birds were found in forest near Ban Kengbit south of the Nam Kading on 18 January and on the south slope of Sayphou Ao (below 500 m) on 30 April (all Nam Kading NBCA). Although listed for Laos only from the South by King *et al.* (1975), these are not the first records for North Laos as a single was recorded from Ban Thangon by Bangs and Van Tyne (1931). Thewlis *et al.* (1996) extended the known range to include Central Laos.

**RAYCHET-TAILED TREEPIE** *Temnurus temnurus* Locally common (found daily when searched for) in Nam Kading NBCA, primarily in little-degraded evergreen forest in the eastern part of the reserve. Records also came from the Nam Ao forest, where small flocks were seen on several occasions, and the Nadi Limestone (once only, at 450 m). These are the first records from North Laos, previous records (reviewed in Thewlis *et al.* in prep.) coming only from the Centre, including higher up in the Nam Theun drainage.

**\*ASHY WOODSWALLOW** *Artamus leucorhynchus* Up to five daily around cleared and secondary areas of the Bolaven Plateau, with up to nine at Nam Hiang (Bolaven Plateau). Two over a narrow valley overgrown with coarse grass near the Nam La on 29 May at 700 m (Phou Dendin NBCA). The only other recent Lao records were of occasional birds in similar habitat on the Bolaven in 1993 (Thewlis *et al.* 1996) and

the Nakay Plateau in 1994 (Evans and Timmins 1997). Historical records come from Ban Nape (Delacour 1929a), Ban Laophouchai and Phongsali, which were both open mountainous areas (Bangs and Van Tyne 1931), Savannakhet province, where rare (David-Beaulieu 1949-1950) and Tranninh, where merely an erratic visitor (David-Beaulieu 1944). Engelbach (1927, 1932) found the species in the South only in hills around Muang Taoy and, commonly, on the Bolaven. Thus, historical and recent records come overwhelmingly from deforested mid-altitude slopes and plateaux. The lack of other records is surprising, as the species is a common resident, chiefly in the lowlands, throughout non-peninsular Thailand (Boonsong and Round 1991).

**\*SLENDER-BILLED ORIOLE** *Oriolus tenuirostris* A pair at a part-built nest in pine forest on the Bolaven Plateau on 21 and 23 April. The birds were distinguished from Black-naped Orioles *O. chinensis* by their thinner stripe on the nape, thinner and pinker bills, the absence of any birds with a golden mantle, and different vocalizations. The observer saw Slender-billed Orioles at Doi Inthanon (Thailand) shortly afterwards. This is the first recent Lao record, but others may have been overlooked among Black-naped Orioles, which were common at several sites surveyed recently. King *et al.* (1975) stated that previous records in Laos come only from the North, but one was found on the Bolaven Plateau (at Ban Thateng, South Laos) late one November (Engelbach 1932). In Tranninh it was much commoner than Black-naped and both species occurred during April - October; some birds reportedly showed features of both species (David-Beaulieu 1944), but from the characters given it is not clear why such birds were not immature male Black-naped Orioles. Delacour and Jabouille (1927) recorded two from Xiangquang in December 1925 (outside David-Beaulieu's period). Birds were common at Taloum (Delacour and Greenway 1940a). Delacour and Greenway (1941) suspected that the species lived on all massifs in Indochina.

The habitat occupied by these birds, open pine forest, is similar to that used in Vietnam (M. R. Leven verbally 1995).

**\*PIED FANTAIL** *Rhipidura javanica* This species was observed frequently on the Thai bank of the Mekong at Nong Khai, as mapped by Boonsong and Round (1991), but has never been recorded in Laos (Mlikovsky and Inskipp in prep.). It seems extraordinary that the Mekong can act as an effective dispersion barrier to the species, but this is presumably so.

**CROW-BILLED DRONGO** *Dicranus amictans* Singles on 26 March in evergreen forest near Ban Kengbit and on the north slope of Sayphou Ao on 2 May (both Nam Kading NBCA) are the first from North Laos; previous Lao records, all in March - May, come from scattered localities in the South and Centre (Thewlis *et al.* 1996.), where the species was also recorded in 1994-1995.

**\*BLACK-BREASTED THRUSH** *Turdus dissimilis* A female on 23 and 28 February along the Nam On (Nakay Plateau) is the first recent record for Laos and the first from the Centre. Although not listed for Laos by King *et al.* (1975), three were recorded from Ban Namkeung-Kao (North Laos) by Delacour and Greenway (1940a). A specimen reported from Xiangquang (David-Beaulieu 1944) was reidentified as a Japanese Thrush by Dickinson (1970b). Examination of skins at BM(NH) showed that female

Japanese Thrushes are indeed variable, although none has as extensive orange on the flanks or on the breast as does typical Black-breasted.

**\*EURASIAN BLACKBIRD** *Turdus merula* Blackbirds were common in the Nam Theun catchment (including Nam Kading NBCA and the Nakay Plateau). A male beside the Xe Kong just outside Xe Pian NBCA on 12 May was the latest spring record. When on the south bank of the Xe Kong river the bird was in Cambodia, from where Mlikovsky and Inskipp (in prep.) traced no records.

Nearly all birds were beside large streams and rivers, singly or in small loose flocks (as found by David-Beaulieu 1949-1950). Others were seen by a pool in agricultural land on the Nakay Plateau and (about 20) in fruiting trees in evergreen forest (Nam Kading NBCA). In 1994, over 40 were seen on several days feeding at the margins of a large grazed grassy area on the Nakay Plateau. Along the Nam Kading (December), birds bathed communally (in groups of up to 20) before going to roost in dense riverside bamboo. Birds at this time frequently gave a soft "p'sook"; the pre-roosting call usual in U.K. was not heard. Other frequent calls, a "whiiiiik" resembling a call of Fieldfare *T. pilaris*, and an explosive ringing "ch(ea) chup chup", also differed from those given in U.K. Delacour and Jabouille (1931) and David-Beaulieu (1949-1950) also noted that calls differed between this population and those in Europe and P. Alström (in Inskipp *et al.* 1996) suggested, on the basis particularly of vocal differences, that this population, *T. m. mandarinus*, is not a subspecies of *T. merula*.

The abundance of birds (up to 80) were seen daily on the Nakay Plateau even on the Nam Kading only 65 km (in a direct line) from the Mekong contrasts with the species's status in Thailand, from where Boonsong and Round (1991) report only one record.

**\*GREY-SIDED THRUSH** *Turdus feae* Singles beside the Nam Mon (Nakay Plateau) on 3 (first winter plumage) and 6 February (adult). No previous records were listed for Indochina by Mlikovsky and Inskipp (in prep.). Both birds were located by call, which was slightly but distinctly thinner than that of Eyebrowed Thrush *T. obscurus*. Some non-orange Eyebrowed Thrushes resemble poorly-marked first-winter Grey-sided Thrushes (M. R. Leven verbally 1995). Skins at BM(NH) showed that such Eyebrowed Thrushes lack clear grey on the underparts whereas the first winter Grey-sided on the Nakay Plateau and the two at Tring all showed this. Furthermore, although difficult to judge on skins, most if not all Eyebrowed Thrushes show a white submoustachial stripe as well as the supercilium and lower eye-crescent of Grey-sided Thrush. The upperparts on all eight Grey-sided Thrush specimens at BM(NH) and on the two in the field was a rusty-olive tone resembling that of many Eyebrowed Thrushes, rather than the straw-olive depicted in Boonsong and Round (1991). All three first-winter Grey-sided Thrushes showed noticeable olive pectoral-patch extensions of the upperpart colour; a similar pattern is shown by dull Eyebrowed Thrushes.

**\*DARK-SIDED FLYCATCHER** *Muscicapa sibirica* Small numbers daily on the Bolaven Plateau and middle Xe Pian during 16-23 April in all habitats visited including centres of villages. Five singles and a group of two were seen in the Nam Ao forest (Nam Kading NBCA) during 27 April - 2 May. Other recent Lao records were of one at Phou

Xang He NBCA on 21 April 1993 (Thewlis *et al.* 1996) and fourteen birds during 23 April - 1 May 1994 in and around the Nakay-Nam Theun NBCA, mainly on the Nakay Plateau (Evans and Timmins 1997). Historically, it was recorded as follows: a scarce September visitor in Savannakhet (David-Beaulieu 1949-1950); a scarce winter visitor in South Laos to Muang Taoy and around Salavan (Engelbach 1932); one, Phongsali on 4 May (Bangs and Van Tyne 1931); an abundant double passage migrant in Tranninh, especially in mountains (David-Beaulieu 1944). Thus the species occurs in Laos mainly on passage, with records clustered in late April and early May (observation in autumn has been much less intensive, however). By contrast in Thailand it is common in winter (Boonsong and Round 1991). As with Forest Wagtail, birds in Laos in winter were recorded only from the South.

**\*FERRUGINOUS FLYCATCHER** *Muscicapa ferruginea* One near the Nam Leuk dam site (Phou Khaokhoay NBCA) in a tree-fall site in logged evergreen forest on 2 November. The only previous Lao record is of one at low altitude at Ban Thathom, North Laos, on 1 October 1946 (David-Beaulieu 1948).

**\*MUGIMAKI FLYCATCHER** *Ficedula mugimaki* Distinctive flycatchers in Nam Kading NBCA in January, on the Nakay Plateau in February and on the Bolaven Plateau in April differed from the female Mugimaki Flycatcher depicted in Boonsong and Round (1991) in several ways: the pale mark on the side of the head resembled in shape and position that of the male, although it was sometimes barely distinct; the rich orange of the breast extended up the throat to the bill-base; the mantle was slightly browner than the head in January and by mid April birds had a noticeably greyish head. Otherwise birds were as expected for Mugimaki in plumage, size and structure. The call was a rapid "tk-tk-tk". Birds sallied from open pine canopy, an understorey tree-fall site, remnant tall trees in cultivation, the understorey beside a forest road and also ate berries in open bushland.

Many skins at BM(NH) revealed that the orange underparts of female-type birds often extend right to the bill base. There was great variation in the precise shape, size and position of the pale mark on the head, but usually it reflected that of the male.

**WHITE-GORGETED FLYCATCHER** *Ficedula monileger* One near Ban Xenam-Noy (Bolaven Plateau) on 18 April showed some characters associated with Rufous-browed Flycatcher *F. solitaria*; although it had a full black surround to the white throat, the crown had a strong russet tone and the bird lacked a white supercilium but, instead, had a small, weakly contrasting, pale supraloral spot. The many other birds in the area appeared as typical White-gorgeted Flycatchers, contrasting with those observed on the Bolaven Plateau in 1993 (35 km to the west in Dong Hua Sao NBCA), many of which showed a wide and inconsistent mix of characters of the two species (Thewlis *et al.* 1996).

**SNOWY-BROWED FLYCATCHER** *Ficedula hyperythra* A female on 3 January in undergrowth beside a small stream at 400 m in the eastern part of Nam Kading NBCA was considerably below the lower altitudinal limits given by King *et al.* (1975; 900 m) and Boonsong and Round (1991; 800 m). The lowest recent Lao record otherwise is at 1,100 m, at which altitude birds were common in Dong Hua Sao NBCA in breeding season 1993 (Thewlis *et al.* 1996).

**BLUE-AND-WHITE FLYCATCHER** *Cyanoptila cyanomelana* Many of both sexes were seen at Nam Hiang (Bolaven Plateau) during 13-17 April, with up to six per day. Females showed surprising variation in throat pattern, including birds with: a mottled brownish throat with an ill-defined creamy vertical centre; a dull greyish throat, with a white ellipse across the lower throat, as shown by some female niltavas; a uniformly pale brown throat and breast. These throat patterns are all shown by female skins in the BM(NH), and Delacour and Jabouille (1931) mention some variation in the amount of white on the throat.

**SMALL NILTAVA** *Niltava macgrigoriae* A male on 3 and 9 January in undergrowth beside a small stream at 400 m in the eastern part of Nam Kading NBCA. The lower altitudinal limits given by King *et al.* (1975) and Boonsong and Round (1991) are 900 m (but sometimes lower in winter) and 900 m respectively. The lowest recent Lao record otherwise is at 600 m in the Nakay-Nam Theun NBCA, where the species was common above 1,000 m (Evans and Timmins 1997).

**\*WHITE-TAILED FLYCATCHER** *Cyornis concretus* Birds were locally common in several areas in and around Nam Kading NBCA down to 250 m (although commoner above 600 m) and one was seen in Phou Khaokhoay NBCA at 300 m. Recently birds were also recorded at Phou Xang He NBCA (350 m) and Nakay-Nam Theun NBCA at 600-1,300 m (Thewlis *et al.* 1996, Evans and Timmins 1997). Historical records come from the Nam Theun area (Delacour 1929a), Lo-Tiao (Delacour and Greenway 1940a) and several sites in Tranninh (David-Beaulieu 1944). The species is thus much more widespread in Laos than in Thailand, where Boonsong and Round (1991) mapped it for only three small areas. It has recently also been found more widely in Annam (Robson *et al.* 1993a). Many recent Lao records came from below 900 m, often substantially so, which is the lower altitudinal limit given for continental South-East Asia by King *et al.* (1975); David-Beaulieu (1944) lists two singles from about 300 m in Tranninh and birds in North Annam were recorded as low as 100 m (Robson *et al.* 1993a).

**\*DAURIAN REDSTART** *Phoenicurus aureus* A male in extensive scrub near Ban Namkong (Bolaven Plateau, 760 m) on 11 April is the first recent Lao record and the first from the South. The species was regular, although not common, in Tranninh (North Laos) between November and March, being most frequent at mid-altitude sites (David-Beaulieu 1944) and one was taken at Ban Nape (Central Laos) (Delacour 1929a).

**PLUMBEOUS WATER REDSTART** *Rhyacornis fuliginosus* A male and a pair on a steep part of the Xe Namnoy 5 km north of Ban Latsasin on 6 April (700 m). Previous Lao records come only from the North and Centre (King *et al.* 1975). In Tranninh, it was a common resident, breeding at mid altitudes and wintering in lower areas (David-Beaulieu 1944). In the Centre only 'a few' were found near Ban Nape and it was fairly rare in Savannakhet (David-Beaulieu 1949-1950); it was recently recorded widely in Nakay-Nam Theun NBCA (Evans and Timmins 1997).

**\*CHESTNUT-VENTED NUTHATCH** *Sitta nagaensis* A pair and 1-2 singles on the Bolaven Plateau on 21 April, in the same area of open pine forest at 1,000 m as were Chestnut-bellied Nuthatches. The observer saw numerous Chestnut-vented Nuthatches shortly afterwards in northern Thailand and

the birds in Laos showed no obvious differences. No previous Lao records were traced by Milkovsky and Inskipp (in prep.) and the nearest known populations are in north-west Thailand and South Annam (King *et al.* 1975). Previous records in South-East Asia come from above 1,080 m (Robson *et al.* 1993b).

**\*DUSKY CRAG MARTIN** *Hirundo concolor* Up to 30 at Vangviang on 26-27 November; one near Ban Lak (28), 30 January; about 40 along the southern escarpment (Nam Kading NBCA), breeding in May; provisional records over the Nadi Limestone and over karst near Ban Pakngeun (east of Nam Mouan). These are the first recent records of a species hitherto considered scarce and local in Laos. Previous records were also from the North: a small group along the middle Nam Xan in December (David-Beaulieu 1944) and at the mouth of the Nam Ou in June, where common (Bangs and Van Tyne 1931). Most records in 1994-1995 were around limestone, with which it is usually associated (Boonsong and Round 1991), although those on the southern escarpment were many kilometres from limestone.

**\*NORTHERN HOUSE MARTIN** *Delichon urbica* Two forms of house martins were seen, which differed in plumage and call. Birds identified as Northern House Martin on the Nakay Plateau (three, Nong Boua, 26 February; two, Ban Don, 5 March) called (repeatedly) with a sharp "d-gitt", closely resembling Northern House Martin in the U.K., and very different from the call of Asian House Martins. The clearest visual difference from Asian House Martin was the lack of dark undertail coverts: the pale vent stretched almost to the tail tip. The perceived contrast between the underwing-coverts and the underwing varied with light and angle. No consistent differences from Asian were apparent in the tail fork depth or the white rump size.

Northern House Martin was recorded from Laos in winter as follows: a single at Pakxe, a flock at Muang Taoy (Engelbach 1932) and regularly in Tranninh (David-Beaulieu 1944). These are thus the first records from Central Laos. All historical records were referred to *D. u. whiteleyi*, now known as *D. u. lagopoda*, which has a tail fork intermediate between Asian and European populations of Northern House Martin (Turner and Rose 1989); this may be why no difference was noted in the field and indicates that the feature is best used cautiously for separating the species.

**\*ASIAN HOUSE MARTIN** *Delichon dasypus* Birds identified as Asian House Martin occurred in large flocks at Phou Khaokhoay NBCA (November) and Nam Kading NBCA (December and January). The call, a reedy "screeee", combined some of the metallic quality of Northern House Martin in the U.K. with the throatiness of Sand Martin *Riparia riparia*. The tail fork was shallower than on Northern House Martin in the U.K.; on some birds at Nam Kading NBCA the tails looked square-ended. The white rump did not look noticeably narrow or dirty in colour. Both throat and undertail coverts were darkish (much less clearly so than on Nepal House Martin) but away from the undertail coverts the underparts appeared no dirtier than on Northern House Martins drinking from flood water. The dark patch on the undertail coverts was smaller than on Nepal House Martin. Black underwing-coverts were intermittently visible on birds in Nam Kading NBCA, but careful previous checking of underwing contrast in Java (where only Asian House Martin occurs) and U.K. (where

only Northern House Martin occurs) indicated that the feature has to be used very cautiously, except in the softest lights.

Characters were checked against skins at BM(NH). Of 23 *D. u. lagopoda*, none has dark under-tail coverts: some have dark shaft streaks, but dark did not extend to the webs. All subspecies of Asian House Martin have dark shaft streaks and almost always some dark sully on the webs. This sully varies in extent and, although usually mid-brown, is sometimes almost black (but not glossy as on Nepal House Martin). The white rump band of *D. u. lagopoda* is approximately 150% as long as that of Asian House Martin and it seems surprising that this difference was less obvious in the field than that in vent colour.

House martins, either Northern or Asian, were recorded over the Bolaven Plateau in April and at Vangviang in November. Recent records, all of under 10 individuals, also come from Houay Nhang (October and November 1992), Xe Pian NBCA (31 December 1992, 1 January and 11 March 1993) and the Nakay Plateau in 1994 (Thewlis *et al.* 1996, Evans and Timmins 1997). Asian House Martins were identified on the Nakay Plateau on 28 February 1994 on the basis of plumage, including a narrow white rump band and dark underwing coverts (light conditions were excellent). There are no certain historical records of Asian House Martin in Laos (Mlikovsky and Inskipp in prep.). Recently, the species was recorded for the first time in Indochina in Vietnam (Robson *et al.* 1993a).

**\*NEPAL HOUSE MARTIN** *Delichon nipalensis* Flocks of 20–40 by the southern escarpment (Nam Kading NBCA, 13–23 April) and about 20 where the escarpment abuts the karst, near Ban Lak (28) (29 January and 22 March) are the first records from North Laos. The only previous Lao records are from the Bolaven Plateau and adjacent lowlands in 1993 (Thewlis *et al.* 1996), the species was again found there in March–April 1995, some 35 km from the 1993 records. The largest flock was of 600 over Nam Hiang (Bolaven Plateau). Such numbers in two years and their wide spread indicates that the population is healthy.

**\*BROWN-BREASTED BULBUL** *Pycnonotus xanthorrhoeus* One believed to be this species on 29 May in scrub at 1,020 m near Ban Than (Phou Dendin NBCA) is the first, albeit provisional, recent record for Laos. In Indochina it seems restricted to the far northern highlands (Bangs and Van Tyne 1931), as in Thailand (Boonsong and Round 1991) and previous Lao records come only from the North: several were recorded previously close to Phou Dendin NBCA, near Phongsali (Bangs and Van Tyne 1931), and it was locally common in Tranninh above 1,100 m (Delacour and Jabouille 1927, David-Beaulieu 1944).

**ASHY BULBUL** *Hemios flavala* A party of three about 3 km west of Ban Nongset (Bolaven Southwest PPA) at 350 m is the lowest altitude recent record in Laos. King *et al.* (1975) gave a usual lower limit of about 600 m for South-East Asia, while Boonsong and Round (1991) noted birds as low as 200 m in peninsular Thailand, but gave no lower limit for continental Thailand. There are many previous records from Laos; David-Beaulieu (1944) recorded the species over 1,000 m, but other authors did not note altitudes.

**\*PALE-FOOTED BUSH WARBLER** *Cettia pallidipes* Two, probably a pair, scolding the observer in hillside tall grass and scrub at 700 m along the Nam Ia (Phou Dendin

NBCA) on 29 May. The tape-recording was confirmed by P. D. Round (*in lit.* 1995) as this species. This is the first recent Lao record, although *Cettia* warblers perhaps of this species were seen in Nam Kading NBCA. Previous records come from Nape (a small flock in January or February; Delacour 1929a), Lo-Tiao (three, probably in late December; Delacour and Greenway 1940a) and Phongsali (a breeding female on 29 April, Bangs and Van Tyne 1931).

**[\*BLUNT-WINGED WARBLER** *Acrocephalus cinnemus* One in rank herbage on Garden Island, Vientiane on 29 November was identified provisionally as this species by the absence of dark above the supercilium (which was specifically searched for at very close range); the greater prominence of the supercilium before than after the eye, the extensive buff wash on the flanks, the quite long, predominantly pink bill and the short wings (relative to Eurasian Reed Warbler *A. scirpaceus*). The call was a soft "tschak", markedly more fluid in the introduction than is the analogous note of Eurasian Reed.

Single small plain *Acrocephalus* warblers on 13 and 17 April in the marshy parts of Nam Hiang (Bolaven Plateau), among dozens of Black-browed Reed Warblers, had cold greyish upperparts, presumably a consequence of wear. It was not possible to decide whether the supercilium (which was strong fore and aft) had a dark upper margin. The breast-sides showed a slight clouding, but the underparts were cleaner and whiter than the bird in November (also likely to be because of wear). The short wings were again noticeable and the call was transcribed as "szchup", lacking the incisive start of the similar call of Eurasian Reed.

The supercilium of Blunt-winged Warbler is usually weak behind the eye (Kennerley and Leader 1992), but is probably most conspicuous on grey-plumaged (thus, worn) birds such as those on the Bolaven Plateau. These records are provisional because even the absence of dark above the supercilium is not conclusive, as a brow is not always visible on some Paddyfield Warblers *A. agricola* (Alström *et al.* 1991). Robson *et al.* (1993a) likewise retained their records from Vietnam as unconfirmed.

The only previous Blunt-winged Warbler recorded from Laos was collected at Savannakhet (Central Laos) on 13 November 1944 (Dickinson 1970b). However, it may prove to be a regular migrant, as it appears to be in Vietnam (Mey 1997). Other than Blunt-winged, Paddyfield Warbler (which has been reported only once from Indochina; N. Dymond in Robson 1996) and Black-browed Reed Warbler, the only small *Acrocephalus* recorded for South-East Asia by King *et al.* (1975) is Blyth's Reed Warbler *A. dumetorum* and this is listed only for Burma.]

**\*EASTERN CROWNED WARBLER** *Phylloscopus coronatus* One in low scrub on the Nakay Plateau on 26 February and singles in evergreen forest near Ban Khawhiang (Nakay Plateau, 550 m) on 3 March and in Nam Kading NBCA on 3 April. Those from the Nakay Plateau are the first from Central Laos; historical Lao records come only from the North and South (King *et al.* 1975). The only other recent records from Laos are from Houay Nhang in autumn 1992 (Thewlis *et al.* 1996): during the survey period of mid October to mid November, the species declined in abundance. David-Beaulieu (1944) found that it was a double passage migrant in Tranninh, but past records from the Bolaven were in December and January (Engelbach 1932). It probably occurs in Laos outside the South mainly on passage. The abundance of Arctic Warbler, which also



occurs in Laos primarily on passage, also declined during the autumn 1992 survey period at Houay Nhang, whereas three common wintering congeners (Blyth's, Yellow-browed and Greenish) increased during this period.

**\*LEAF WARBLER** *Phylloscopus* sp. An unidentified warbler was common in the Nadi and Sayphou Loyang Limestone areas. Among *Phylloscopus* species known from Laos, it seemed closest to White-tailed Leaf Warbler *P. davisoni*, but differed from those seen in Nam Theun NBCA and on the Bolaven Plateau in having the breast and belly bright yellow and in the intense yellow central crown stripe, supercilium and wingbars. The yellow underparts were not as strongly coloured as on Sulphur-breasted Warbler. Skins at BM(NH) confirmed the differences from White-tailed (and also Blyth's) and that, while the head pattern and colour resembled Sulphur-breasted, the underparts were much less bright. The birds were probably holding breeding territories; they were seen in successive days in the same patches of forest and were calling and singing frequently. On the basis of the tape-recorded vocalizations, the birds may belong to an unnamed taxon (*P. Alström in litt.* 1995).

**SCALY-CROWNED BABBLER** *Malacopteron cinereum* Locally frequent in the evergreen forest of Nam Kading NBCA, particularly in the Nam Ao forest. These are the first records from North Laos, previous records (reviewed in Thewlis *et al.* 1996) coming from the South and Centre. The species was recently recorded north to 20°N in Vietnam (Robson *et al.* 1989). Most records in Laos come from lowland or flat mid-altitude sites retaining good forest; it occurs up to 700 m in North Annam (Robson *et al.* 1993a).

**\*STREAK-BREASTED SCIMITAR BABBLER** *Pomatorhinus ruficollis* At least one was seen in tall scrub at 1,010 m on 27 May near Ban Than (Phou Dendin NBCA). Birds showing a range of characters between Streak-breasted and White-browed *P. schisticeps* were found in the Nam Kading NBCA and Nam Ao forest, and in 1994 in the Nakay-Nam Theun NBCA (Evans and Timmins 1997). Most birds showed rather little streaking on the flanks and side of the breast; relatively few were streaked across the breast. A party in the Nam Ao forest (Nam Kading NBCA, 22 January) contained two unstreaked adults, one moderately streaked adult and two fledged young.

There are several previous records of Streak-breasted Scimitar Babbler from Laos. Two were collected at Phongsali (close to Phou Dendin NBCA) and one at Ban Muangyo (all of *P. r. albipectus*; Bangs and Van Tyne 1931). Birds from Ban Nonghet resembled *P. r. reconditus* but were rather pale (Delacour and Greenway 1940b). *P. r. beaulieui* was described from Tranninh (David-Beaulieu 1944) and further birds were collected at Taloun, Lo-Tiao and Ban Namkeung-Kao (Delacour and Greenway 1940a). Birds from the last two sites were intermediate between *P. r. beaulieui* and *P. s. ripponi*; these two forms differ only in that the former has a streaked breast (Delacour and Greenway 1940b). Birds from Nam Theun and the Bolaven Plateau appeared to be intermediates between *P. r. reconditus* and *P. r. beaulieui* (Delacour and Greenway 1940b). Our observations of birds on the Bolaven were all of entirely unstreaked birds and therefore identified as *P. schisticeps* (Appendix 1; Thewlis *et al.* 1996).

*P. r. beaulieui* shows weaker and sparser streaks than do some other subspecies of *P. ruficollis* (which show bold streaks down the underparts from the lower margin of the throat); indeed *P. r. beaulieui* was described as having only a more or less streaked breast (Delacour and Greenway

1940b). The streaked birds we observed in Central Laos appear closer to *P. r. beaulieui* than to *P. schisticeps*, with dull and pallid streaking, which was usually fairly limited but very variable in extent; some individuals were not clearly separable from *P. schisticeps*. A specimen at BM(NH), from Central Laos (Ban Hoi Mak camp 39, 8 km north-east of Ban Pak-Hinboun, collected on 28 February 1920) has been labelled variously as *P. r. beaulieui* and *P. s. humilis*. Because of the intergradation they found in parts of Laos, Delacour and Greenway (1940b) considered that all forms of *P. ruficollis* and *P. schisticeps* were conspecific, whether the underparts were streaked or not and whether the upperparts were rusty or olive. They were aware that elsewhere (the Himalayas and upper Burma) well differentiated forms with streaked and plain underparts occurred together, contrasting with the situation in Laos where adjacent forms merged into each other. Deignan (1964), however, accorded *P. ruficollis* and *P. schisticeps* specific rank, without explaining why.

**\*LIMESTONE WREN BABBLER** *Napothera crispifrons* A flock of about six at Vangviang on 26 November is the first recent record from Laos, previous records coming only from the north-east (Delacour and Jabouille 1940, King *et al.* 1975): small numbers were found at Ban Souy and the Nam Mo, and birds seemed much rarer than their habitat (David-Beaulieu 1944). In the late afternoon the birds at Vangviang foraged around a small temple at the foot of a limestone cliff, entering occasionally the porches of buildings, and seemed indifferent to the passage of numerous monks within a few feet. David-Beaulieu (1944) however, considered it was a very wild bird which was difficult to see and capture.

**\*SOOTY BABBLER** *Stachyris herberti* Three groups in the Khammouan Limestone NBCA on fairly open vegetated karst at 280-480 m altitude. These are the first records for Laos since the species was described from specimens taken in this same limestone complex 21 km from the 1995 sightings (Baker 1920, 1921, Williamson 1945). The only record in the interim was from Vietnam (Eames *et al.* 1995), on another part of the same limestone belt.

**\*YELLOW-EYED BABBLER** *Chrysomma sinense* One in hillside tall grass and scrub at 700 m along the Nam La (Phou Dendin NBCA) is the first recent Lao record. Such scarcity is unexpected as in neighbouring Thailand it is 'very common', occurring over a wide altitudinal and habitat range, especially in degraded areas (Boonsong and Round 1991). Previous Lao records comprise: one at Phongsali (Bangs and Van Tyne 1931); infrequent in Tranninh (Delacour and Jabouille 1927, David-Beaulieu 1944); rare in Savannakhet, less so around Xe Pon (David-Beaulieu 1949-1950); found at Ban Nape (Delacour 1929a) and Taloun (Delacour and Greenway 1940a); and found in the South only at Ban Thateng, at 900 m (Engelbach 1932). Thus, although it was collected widely, no authors considered the species common. The past records come mainly from mid altitude hills and authors often mentioned that the bird was found in grassy or bushy areas, away from forest. It is likely that the paucity of recent records reflects partly the bird's occurrence at low density, and partly a concentration of effort in forest areas.

**\*BROWN-CHEEKED FULVETTA** *Alcippe poiocephala* Fulvetta identified as this species were recorded in the Nam Ao forest (Nam Kading NBCA, one), in scrub along the access road 2 km from the Theun-Hinboun dam site (Nam

Kading NBCA, one small flock), in tall secondary growth in the Nam Mouan valley (Nam Kading NBCA), and in degraded forest and tall secondary growth around Ban Hinngon, where it was common. In Phou Dendin NBCA it was provisionally identified twice.

It was distinguished from *A. morrissona* and *A. peracensis* by the lack of an obvious eyering, having a face browner than grey, and darker-washed underparts with a markedly yellow tone. Grey was restricted to the cap; the cheeks were concolorous with (although slightly darker than, and sometimes tinged grey-brown) the throat and breast. The folded remiges were noticeably rusty against the rest of the upperparts.

These birds fit *A. poioicephala aleris*, which has not otherwise been recorded recently from Laos. Historical records come from hilly areas in the North and Annamites: Ban Muangyo and Ban Boun-Tai (Bangs and Van Tyne 1931), Ban Houayxai, Ban Namkeung-Kao, Lo-Tiao and Taloun (common at all; Delacour and Greenway 1940a), Tranninh (less common; Delacour and Greenway 1940a, David-Beaulieu 1944) and Xe Pon (common; David-Beaulieu 1949-1950). It occurred in the same localities as *A. m. fraterculus* around Tranninh, even mixing in small numbers in flocks in which the latter was common (David-Beaulieu 1944), while in eastern Savannakhet large flocks of *A. p. aleris* sometimes contained unidentified fulvettas which were either *A. peracensis annamensis* or *A. peracensis grotel* (David-Beaulieu 1949-1950). The most similar specimens at BM(NH) to the birds we observed are two which were collected at Ban Muangliap (camp 15) by Herbert in 1920.

**GREY-CHEEKED FULVETTA** *Alcippe morrissona* This species was recorded on the Nakay Plateau and was common in secondary forest along the Nam Ngoy 16 km upstream of Ban Thabak. The single record west of this was on Sayphou Ao, west of the Nam Kading, at 750 m. Small numbers were identified provisionally in and around Phou Dendin NBCA at 900 - 1,700 m. It was previously found widely in and around Nakay-Nam Theun NBCA in 1994 (Evans and Timmins 1997). In the field it showed a mix of characters of *A. peracensis annamensis* and *A. p. grotel* (see Thewlis *et al.* 1996). It was collected (as *A. nepalensis laotianus*) in the Ban Nape and Nam Theun area (Delacour 1929a). It is now called *A. morrissona fraterculus* (Mlikovsky and Inskipp in prep.). Birds referred to *A. m. fraterculus* were common in Tranninh (David-Beaulieu 1944); specimens from this region at BM(NH) have darker and more uniform brown upperparts than the birds recorded in the Nam Theun catchment.

**\*AUSTRALASIAN BUSHLARK** *Mirafra javanica* One on 1 May at the edge of a dry pool at Ban Nakhay (Phou Khaokhoay NBCA) is the first recent Lao record. It was frequent on passage through Tranninh in November and sometimes April and a few were found one autumn in Savannakhet (David-Beaulieu 1944, 1949-1950). The timing of the Phou Khaokhoay NBCA record accords with a migrant.

**\*STREAKED SPIDERHUNTER** *Arachnothera magna* Recorded, often commonly, on the Nakay Plateau (500-600 m), in the Nam Kading NBCA (250-850 m), around the Nadi Limestone (500 m), on the Bolaven Plateau (750-1,000 m), at Vangviang (200 m) and at Phou Dendin NBCA (600 m). The species was also common in Phou Xang He NBCA

down to 300 m (Thewlis *et al.* 1996). King *et al.* (1975) gave a lower altitudinal limit of 900 m, which is clearly inappropriate for Laos; Boonsong and Round (1991) stated that the species occurred down to the foothills in Thailand and Robson *et al.* (1993b) recorded birds down to 140 m in Vietnam. The lack of records from south of the Bolaven Plateau contrasts with its abundance on the Plateau and in areas to the north.

**\*PLAIN-BACKED SPARROW** *Passer flaveolus* A male on Garden Island, Vientiane (3 December) and four at Pakxan (20 December) in waterside scrub or cultivation. Previous Lao records come only from the South and Centre (King *et al.* 1975). In Savannakhet, it was scarce, lived away from habitations, and occurred in pairs rather than the big flocks of Cochinchina (David-Beaulieu 1949-1950); it was a resident around Pakxe and in one year nested in the hospital buildings (Engelbach 1932). Other recent records are of: 11 on 29 January 1993 at Dong Kalo, Xe Pian NBCA (Thewlis *et al.* 1996) and occasional birds in 1994 in degraded areas of the Nakay Plateau and the outskirts of Xe Bang-Nouan NBCA (Evans and Timmins 1997). The species appears to be localized in small numbers in Laos; contrastingly in Thailand it is a very common resident and occurs in a variety of habitats throughout the country (Boonsong and Round 1991).

**\*FOREST WAGTAIL** *Dendronanthus indicus* Birds (usually singly) were recorded in Nam Kading NBCA (mainly in degraded areas) on seven dates in April, from Ban Houayko (Bolaven Southwest PPA) on 12 and 13 April, and near Ban Nam Tang (Bolaven Plateau) on 10 April. Other recent records are of small numbers at Phou Xang He NBCA in April 1993, at Lao Pako in April 1993 and at Xe Pian NBCA in early January and early March 1993 (Thewlis *et al.* 1996). The concentration in April indicates that the bird occurs primarily on passage in Laos, with relatively small numbers in winter in the South; by contrast it is common in winter in most of Thailand (Boonsong and Round 1991). Historical records are: a regular double passage migrant in Tranninh, commoner in August - October than in April (David-Beaulieu 1944); a scarce bird in Savannakhet (no dates given; David-Beaulieu 1949-1950); recorded from dense forest around Pakxe in October - January (Engelbach 1932) and a single from Ban Muangyo on 15 May (Bangs and Van Tyne 1931). Delacour (1929b) considered that it was a common winter visitor to the south of Indochina, but rare in the centre.

**WHITE WAGTAIL** *Motacilla alba* Birds were common along the Nam Ou (Phou Dendin NBCA) in May - June, and many fresh juveniles, some begging from adults, were observed. This is the first breeding record for Laos of a common migrant throughout the country (King *et al.* 1975, Thewlis *et al.* 1996, Evans and Timmins 1997). Elsewhere in Indochina, King *et al.* (1975) recorded breeding only for Tonkin, which adjoins North Laos. Breeding is probably not widespread in North Laos as David-Beaulieu (1944) never recorded it during five years' residence in Tranninh.

**\*PIN-TAILED PARROTFINCH** *Erythrura prasina* Singles at Nam Mang (Phou Khaokhoay NBCA) on 9 and 11 November and widespread records of flocks (some of hundreds) in Nam Kading NBCA, especially the Nam Ao forest in January. These are the first recent records from Laos. Previous Lao records are discussed in Thewlis *et al.* (in prep.).

\***SPOT-WINGED GROSBEAK** *Mycerobas melanocephalus* A flock of about seven along the Nam Ou at 570 m on 26 May (Phou Dendin NBCA) fed on small fruits in an area of secondary growth. This is the first recent record for Laos, although this pattern is not unexpected as previous records come only from the North (King *et al.* 1975). Past records comprise: Ban Muangyo (Bangs and Van Tyne 1931); Lo-Tiao and Taloun (Delacour and Greenway 1940a); and a regular summer visitor, erratic in numbers, to Xiangquang (David-Beaulieu 1944).

\***BLACK-HEADED BUNTING** *Emberiza melanocephala* A male at Vangviang on 27 November is the first record for Indochina (Mlikovsky and Inskipp in prep.) and probably the first field observation of the species in mainland South-East Asia (Thewlis 1995).

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J. W. Duckworth, East Redham Farm, Pilning, Bristol BS12 3JG, U.K.

R. J. Tizard, 1901 Nuces Drive, College Station, Texas 77840, U.S.A.

R. J. Timmins, 25 Cradley Road, Cradley Heath, Warley, West Midlands B64 6AG, U.K.

R. M. Thewlis, 52 Long Reach Road, Cambridge CB4 1UJ, U.K.

W. G. Robichaud, Cedar Grove Ornithological Research Station, Marine Drive, Route 1, Cedar Grove, Wisconsin 53705, U.S.A.

T. D. Evans, 11a Yeoman Lane, Bearsted, Maidstone, Kent ME14 4BX, U.K.







SPECIES / Threat	Nam Theun drainage basin								Phou Khao		Xe Nam Noy cat.		BSW	Xe	Phou	Other sites											
	Nakay Plateau	A	B	C	D	E	F	G	Nadi Limestone	Sayphou Loysang	KL NBGA	Nam Leuk					Nam Mang	Open areas	Ban Nakhay	Pine Forest	Bolovens Plateau		Lower Xe Pian	Lower Xe Pao	Xe Krong	within NBGA	without NBGA
																					Nam Hiang	Other					
VERNAL HANGING PARROT <i>Loriculus vernalis</i>	C	C	P	C	P		P				C	C						C	C	P	C	C			15		
ALEXANDRINE PARAKEET <i>Psittacula eupatria</i>																					O				[11]		
GREY-HEADED PARAKEET <i>P. fusca</i>	C															P	C		P	Pk	P						
BLOSSOM-HEADED PARAKEET <i>P. nysata</i>																						C					
RED-BREASTED PARAKEET <i>P. alexandri</i>							P														P	C	C				
SWIFLET sp <i>Collocalis</i>	C	C		C	P		C				O									F				P	2,4, 8,15		
WHITE-THROATED NEEDLETAIL <i>Hirundapus caudacutus</i>			P																						6		
SILVER-BACKED NEEDLETAIL <i>H. cochinchinensis</i>	[P]	P																			P	P	C	P	6		
BROWN-BACKED NEEDLETAIL <i>H. giganteus</i>	P	C		P	P						C	C	C			F				P	P	P	C	P			
NEEDLETAIL sp <i>Hirundapus</i>							P																	P			
ASIAN PALM SWIFT <i>Cypselurus balanensis</i>					P						F	F	C						C		P	P	C	P	1,2, 3,7		
FORK-TAILED SWIFT <i>Apus pacificus</i>	C	C		P								F									P	P	P		1,8		
HOUSE SWIFT <i>A. affinis</i>	F	P									O	O	F			P	P	P	P	P	P	P	P	P	1,3		
CRESTED TREESWIFT <i>Henophrone coronata</i>																					P		C	P			
ORIENTAL BAY OWL <i>Phodilus badius</i>		O	C	C							[F]																
MOUNTAIN SCOPS OWL <i>Otus spilocephalus</i>	C	C	C	C		P					C	C									C	P		C	C	4,10	
ORIENTAL SCOPS OWL <i>O. sinus</i>	C	P			P						[C]	[P]															
COLLARED SCOPS OWL <i>O. bakkamoena</i>	C	C	C	P	P						P	C									P	C	C		4		
[SPOT-BELLIED EAGLE OWL <i>Bubo nipalensis</i> ]																					[P]						
TAWNY FISH OWL <i>Ketupa flavipes</i>																										14	
FISH OWL sp <i>Ketupa</i>	P										P											P	P				
BROWN WOOD OWL <i>Strix leptogrammica</i>	P																										
COLLARED OWLET <i>Glaucidium brodiei</i>	C	F	C	C					C		C	C									C	C		P	4,10		
ASIAN BARRED OWLET <i>G. cuculoides</i>	C	LC	C	C	C		C				C	C	C								P	C	P	P	P	6, 11,15	
BROWN HAWK OWL <i>Ninox scutulata</i>	C	LC	C	C							C										P	C		P	P	4,15	
[JAVAN FROGMOUTH <i>Batrachostomus javanicus</i> ]	[P]																										
GREY EARED NIGHTJAR <i>Eurostoopides macrotis</i>	C	LA	C	A	C						P										P	C	P	P	P	4, 14,15	
GREY NIGHTJAR <i>Caprimulgus indicus</i>		P																									
LARGE-TAILED NIGHTJAR <i>C. macurus</i>	C	P		P	C																C	P	C	P	P		
[SAVANNAH NIGHTJAR <i>C. affinis</i> ]											[P]															[6]	
ROCK PIGEON (IBERAL) <i>Columba livia</i>																								P		1,3	
PALL-CAPPED PIGEON <i>C. palumbus</i>		P																									
ORIENTAL TURTLE DOVE <i>Streptopelia orientalis</i>	LC	P		P	P																C	C	P	F	P	[P]	11
SPOTTED DOVE <i>S. chinensis</i>	LC	P		P	C		P														C	C	F	C	C	P	

























Species - Thieu	Sam Theua drainage basin							Nakh Luang	Saphou Louang	K. NACA	Phou Khao					Xe Nam Noy cat		HSW	Xe	Phou	Other sites													
	Nakas Plateau	A	B	C	D	E	F				G	Sam Muang	Nam Leuk	Open areas	Ran Nakhay	Bolovens Plateau						Xe												
																Sam Hlang	Other						Middle	Lower										
SCARLET-BACKED FLYCATCHER RED <i>Dicaeum orientatum</i>					P									P		P				1,6														
FLOWERPECKER spp. <i>Dicaeum</i>		C	C							C	C					P																		
BROWN-THROATED SUNBIRD <i>Aethya malacensis</i>																					1													
RED-THROATED SUNBIRD <i>A. nigilenta</i>		P	P							C	C					P	P																	
PURPLE-NECKED SUNBIRD <i>Hypogramma hypogrammicum</i>	P	F	F					P			C							C																
OLIVE-BACKED SUNBIRD <i>Nectarinia jugularis</i>					P									P	P	P					6													
PURPLE SUNBIRD <i>N. siamensis</i>																																		
OLIVE-BACKED PURPLE SUNBIRD <i>N. jugularis/N. asiatca</i>											C																							
MRS GOLDIE'S SUNBIRD <i>Aethya goldieae</i>																																		
BLACK-THROATED SUNBIRD <i>A. atriseta</i>		P	F		P			P	P		P			P	C						14													
GREENISH SUNBIRD <i>A. spatula</i>	P	P		C								P				P	P	P			[P]	2,11												
LITTLE SPIDERBILINER <i>Aethya longirostris</i>		C		P						P	C											P	2,14											
STREAKED SPIDERBILINER <i>A. magna</i>	P	C	C					P						C	C								P											
PLAIN-BACKED SPARROW <i>Pooecetes pugnax</i>																																		
EURASIAN TREE SPARROW <i>E. montanus</i>				LC	C		C																											
FOREST WAGTAIL <i>Dendrozonotrichus indicus</i>		LF																																
WHITE WAGTAIL <i>Motacilla alba</i>	C	LC	P	C	LF		C				O	C				P	P	P								P	LA	C	1,2,3, 15,19					
CITRINE WAGTAIL <i>M. citreola</i>																																		
YELLOW WAGTAIL <i>M. flava</i>	C				[P]									F		P		P	P															
GREY WAGTAIL <i>M. cinerea</i>	C	C	P	C	C		C			C	C	F				P																		
RICHARD'S PHOENIX <i>Actitis richardi</i>	C	P			P									P																				
PANDYTHAI PHOENIX <i>A. vulpula</i>																																		
OLIVE-BACKED PHOENIX <i>A. bodgami</i>	C	P	LC	A	C		C			LC	C			C	C																			
RED-THROATED PHOENIX <i>A. loehli</i>	P																																	
PIN-TAILED PARQUETFINCH <i>Erythrura prasina</i>		LC	C	C	P			P																										
WHITE-BELLIED MYNNA <i>Lophura striata</i>	C	LD	C	C	P					C	P	P				P	P	C	P	P														
SCALY-BREASTED MYNNA <i>L. puzosulata</i>		P			P																													
SPOT-WINGED GROSBEAK <i>Mycerobius melanocephalus</i>																																		
CHESTNUT-EARED BUNTING <i>Enderburyia fasciata</i>																																		
LITTLE BUNTING <i>E. pusilla</i>						P									P																			
YELLOW-BREASTED BUNTING <i>E. aureola</i>															O																			
CHESTNUT BUNTING <i>E. mitra</i>		P			C	C																												
BLACK-HEADED BUNTING <i>E. melanosephala</i>																																		
COVERAGE	F	G	G	P	P	P	P	P	P	P	F	P	P	P	F	F	P	P	P	F	F	F	F	F	F	F	P	P	P					

## APPENDIX 2

## GAZETTEER

Thewlis *et al.* (in prep.) give co-ordinates and altitudes for most sites and relate map names to locally used names or those in past references. Sites which are cited in this paper, but not in Thewlis *et al.* (in prep.) are presented in this supplementary gazetteer. Besides geographical co-ordinates, localities are listed according to two biogeographical region classifications; firstly the division of Laos into North (N), Central (C) and South (S) proposed by Delacour and Jabouille (1931) and employed by King *et al.* (1975); secondly, the classification of MacKinnon and MacKinnon (1986) who divided Laos into the three sub-units of Central Indochina (10a), North Indochina (10b) and Annam (5b).

Co-ordinates, altitudes, and place name spellings have been standardized to follow the République Democratique Populaire Lao Service Géographique D'Etat 1:100,000 map series, except for the Bolaven Plateau, the Mekong and Annamitic chain (which are called Phouphiang Bolaven, Nam Khong and Sayphou Louang, respectively, on the Lao Service Géographique D'Etat 1:100,000 map series).

Locality with geographical co-ordinates	Alternative names in past references	Biogeographic Subunits	Altitude/m
Ban Hinngon (18°23'N 104°29'E)		N, 10a	450
Ban Katok (18°12'N 104°40'E)		C, 10a	440
Ban Lak (28) (18°09'N 104°28'E)		C, 10a	180-400
Ban Laophouchai (21°47'N 102°24'E)	Lao Fou Chai	N, 10b	1,100
Ban Latsen (19°20'N 103°08'E)		N, 10b	1,100
Ban Muangliap (18°29'N 101°39'E)	Muang Liep; camp 15 (Herbert 1920).	N, 10a	200
Ban Namkong (14°59'N 106°35'E)		S, 10a	760
Ban Namsanam (18°11'N 104°33'E)		C, 10a	150
Ban Nongset (14°54'N 106°25'E)		S, 10a (village)	310
Ban Pak-Hinboun (17°35'N 104°37'E)	Pak Hin Boun; Muang Hinboun	C, 10a	155
Ban Songhong (17°44'N 104°34'E)		C, 10a	170
Ban Thabak (18°14'N 104°40'E)		C, 10a	380
Ban Touay (14°50'N 106°57'E)		S, 10a	100
Ban Xe Namnoy (15°00'N 106°36'E)		S, 10a	760
Ban Xenô (16°40' N 104°59' E)		C, 10a	180
Nam Ngom (18°28'-18°40'N 104°21'-104°26'E)		N, 10a	400
Nam Sang (18°52'-19°05' N 104°12'-104°16' E)		N, 10a, 5b	450-600
Nam Souang Reservoir (marked on map as "Agk. N") (18°13' N 102°27' E)		N, 10a	180
Nam Xan (18°23'N-19°08'N 103°39'-103°49'E)		N, 10a	160-940
Nikhom 3 (17°42'N 105°15'E)		C, 10a	580
Nong Paapak (17°40'N 105°19'E)		C, 10a	540
Phou Hai (18°10'N 104°39'E)		N, 10a	1,243
Vangviang (18°55' N 102°27' E)		N, 10a	200
Xe Pian dam site (15°03' N 106°31' E)		S, 10a	780
Xe Banghiang (16°03' - 16°54' N 105°15' - 106°27' E)	Se Bang Hieng <sup>1,2</sup>	C/S, 10a/5b	130-280