Recent observations of birds in Xizang and Qinghai provinces, China

C. R. ROBSON

Between 3 March 1986 and 19 April 1986 216 species of birds were recorded from 23 localities in Xizang and Qinghai provinces, China; 7–11 species were new for Xizang, three for Qinghai, and 17–20 for 'South-east Tibet'. Notable species seen include Black-necked Crane Grus nigricollis, Kozlov’s Babax Babax kasowii and Kozlov’s Bunting Emberiza kozlovi.

Vaurie (1972) treated Tibet (Qinghai–Xizang Plateau) as a geographical region rather than a country with political boundaries, splitting it up into three plateau regions - Northern, Outer and South-eastern (cited as South-east Tibet in this paper) - according to vegetation, topography and climate, etc. Chinese scientists recognise different divisions for the region (Zhang 1978) and these together with Vaurie’s can be found on Figure 2. Unfortunately the names of the Chinese divisions could not be translated and I have used those of Vaurie for convenience.

The history of ornithology in South-east Tibet is rather brief, and the region’s avifauna is still poorly known. In southern South-east Tibet the most important work was done by F. Ludlow and Major G. Sherriff during their collecting expeditions of 1936, 1938 and 1946–1947. Previously only very small collections had been made by F. M. Bailey in 1911 and again accompanied by Captain Morshhead, in 1913. G. Bonvalot and Prince H. d’Orléans were the first to make collections in northern South-east Tibet, in 1890, followed by P. K. Kozlov in 1900–1901 and the Brooke Dolan Expedition of 1934–1935, with E. Schäfer. There was also a small collection made by Captain Bower and Dr Thorold in 1891–1892. In recent times collecting has been carried out in South-east Tibet by Chinese ornithologists, and reported on by Cai Qiikai et al. (1977), Li Dehao et al. (1978), Li Dehao and Wang Zuxi (1979), Jiang Zhihua et al. (1979), Zheng Zhongxing et al. (1980) and Zheng Zhongxing (1983). Some of the birds they collected were outside Vaurie’s (1972) division for the South-eastern Plateau Region, but all were within present-day Chinese limits, and Xizang province. In this paper I include the whole of this part of Xizang up to the border, and call it South-east Tibet, rather than the South-eastern Plateau.

North-eastern Tibet has been much more widely explored, and is probably the best known part of Tibet (Qinghai–Xizang Plateau). A great number of expeditions have criss-crossed the area, starting with the great Russian expeditions of the 1870s, led by N. M. Przhevalsky, V. I. Roborovsky and, later, P. K. Kozlov, who completed his last explorations there in 1907–1909, and ending with the work done by F. R. Wulsin, J. F. Rock and W. Beeck between 1922 and 1930, and by Sien Yaohua and his co-workers in 1959–1962.
During March and April 1986 D. S. Farrow and I spent seven weeks travelling from Lhasa to Qinghai Hu (Koko Nor) via Pome District, Qamdo and Yushu in South-east Tibet. During the course of our trip we observed over 200 species of birds, among which were 7–11 new species for Xizang province, three new for Qinghai province and 17–20 new for South-east Tibet (South-eastern Plateau region as described by Vaurie 1972). In addition we made a number of observations representing minor range extensions, or providing recent information on little-known or threatened species. During the second half of March, we observed a small migration of raptors through southern South-east Tibet. The largest single movement occurred at Güncang on 13 March. On that day cloud cover dropped to c.3,200 m in the late morning and then lifted again to c.4,800 m in the early afternoon. After the cloud lifted raptors began passing through between c.3,600 and 4,200 m.

We arrived in Lhasa by aeroplane from Chengdu, Sichuan, on 3 March 1986. After a few days birdwatching in the Lhasa area we travelled east by truck, along the Lhasa–Chengdu road to Güncang in westernmost South-east Tibet, where we spent the next six days, 10–16 March, exploring various habitats up to 4,300 m. We were surprised by the extensive pine and mixed coniferous forest with prickly oak and rhododendron remaining in this area, and decided to move on east to Pome District (30°15'N 95°05'E), where we expected to lose altitude and perhaps find some evergreen forest.

We travelled by truck again, arriving at Tangnai, Pome District, on 20 March, after spending a day at Dongju. Between Dongju and Tangnai we dropped down in altitude and evergreen elements became increasingly dominant. At Tangnai itself, we found ourselves surrounded by pristine evergreen forest (see Plates 1–2). It rained heavily at Tangnai, and on 24 March we moved, again by truck, south-east along the Po Tsangpo river to Bom. We left the evergreen forest behind, some 20 km after Tangnai, as we regained altitude. We found extensive forest once more at Bom, and spent two days, 25–26 March, exploring an area across the river to the south. On 27 March we continued south-east to Rawu, then north via Baxoi and Bamda to Qamdo on the upper Mekong, arriving on 31 March. On the way to Qamdo we passed through high and often rugged terrain, including the breathtaking gorges of the Salween and Mekong. The general terrain remained rather rugged, but more open around Qamdo, with some patches of forest on a north-facing aspect. We found a good area of forest about 7 km north of Qamdo, on the east side of the Mekong, and spent two days, 1–2 April, looking for birds there.

In Qamdo we decided to try and head north for Yushu along a road which was marked on our maps. We took a lift in a truck from Qamdo to Sagoo, some 65 km to the north-west along a major tributary of the Mekong. There was no transport north of Sagoo, and the road itself, very obvious on our maps, disappeared. We walked on to Hsin-ta and then Qamda, through a well-wooded area, on 4–5 April. From Qamda we had a very long day's walk over high country to Goinxab. The next two days were spent walking on through open steppe country to Ka-ma and eventually Nangqên on the Mekong again, arriving there on 8 April. We picked up the road again at Nangqên and travelled by truck via Doramarkog to Yushu. Yushu (just inside the northern border of South-east Tibet) was very disappointing, the surrounding hills bare and overgrazed. We travelled by bus for the two-day 800 km journey to Xining over the high, windswept Qinghai Plateau, on 12–13 April. From Xining we took a bus west to Qinghai Hu, and spent our last few days in Tibet proper on the Bird Island peninsula at the western end of the lake, 15–19 April. All these localities are mapped in Figures 1 and 2.

RECORDS OF PARTICULAR INTEREST

**GREAT CORMORANT Phalacrocorax carbo**
Maximum of five at Tangnai from 21–23 March, one between Tangnai and Bom on 24 March, two at Rawu on 28 March and two at Nangqên on 8 April. Although previously recorded from the Northern and Outer Plateau regions (Vaurie 1972), these appear to be the first records for South-east Tibet.

**COMMON SHELDRUCK Tadorna tadorna**
A pair on the Mekong, about 30 km south of Qamdo, on 31 March. Although previously recorded from the Northern and Outer Plateau regions (Vaurie 1972), this appears to be the first record for this species in this area.

Plate 1. Evergreen forest along the Yigong Chu near Tangnai, habitat for Bay Woodpecker and Black-crowned Shrike-Babbler (C. R. Robson)
Plate 2. Undergrowth in evergreen forest c. 7 km south-west of Tangnai, habitat for Yellow-throated Fulvetta and Grey-checked Warbler (C. R. Robson)
first record for South-east Tibet.

EURASIAN WIGEON *Anas penelope* A flock of ten at Tangmai on 22 March, one at Rawu on 28 March, and one a few kilometres north-east of Hsün-ta on 5 April. Zheng (1976) maps this species right across South-east Tibet as a winter visitor, without specific location, and Meyer de Schauensee (1984) mentions it as a winter visitor to the region, but no definite records for the region, prior to ours, have been traced. It has previously been recorded from the Northern and Outer Plateau regions (Vaurie 1972).

GADWALL *Anas strepera* At least five, about 7 km south-west of Tangmai, on 20 March, another two at Tangmai on 21 March, and two or three at Rawu on 28 March. Zheng (1976) maps this species right across South-east Tibet as a winter visitor, without specific location, but no definite records, prior to ours, have been traced. It has previously been recorded from the Northern and Outer Plateau regions (Vaurie 1972).

SPOT-BILLED DUCK *Anas poecilorhyncha* One at Gúcang on 13 and 15 March, and about eight at Rawu on 28 March. The sighting at Rawu appears to represent an extension eastwards of its known range in South-east Tibet. Zheng (1976) maps it for South-east Tibet, south of the Tsango river, as a winter visitor, without specific location, but only one previous record for the region has been traced: one or two flocks seen on the Tsango at Dzung, near Tsela Dzung (29°25'N 94°22'E) in March 1947 (Ludlow 1951). It has previously been recorded from the Outer Plateau region (Vaurie 1972).

NORTHERN SHOVELER *Anas clypeata* One at Gúcang on 15 March. This appears to be the only previous record for South-east Tibet, and an extension eastwards of its known range in the region. Zheng (1976) maps it as a winter visitor to South-east Tibet, south of the Tsango river, without specific location, but only one previous record for the region has been traced: two specimens taken at Bomi (Zheng 1983). It has previously been recorded from the Northern and Outer Plateau regions (Vaurie 1972).

SMEW *Mergus albellus* At least 25, in a large mixed flock of ducks, at the western end of Qinghai Hu, on 16 April. This may be the first record for Qinghai Hu, and the Northern Plateau region. Zheng (1976) maps it to the north of the upper Hwang Ho area as a winter visitor, without specific location, and Sien et al. (1964) give a record from Xining by E. Stresemann and W. Meise, 1937–1938. It has also been recorded from Doło (36°41'N 101°30'E), north-east Qinghai province, in the Outer Plateau region (Vaurie 1972).

BLACK KITE *Milvus migrans* At least 145 moving east at Gúcang on 13 March, followed by six east on 15 March and 18 east on 16 March. A rather disorientated flock of 40 at Nyingchi on 17 March, some eventually going east. A further disorientated flock of 32 over Dongo on 19 March. A flock of 17 moving north or north-east over Tangmai, on 21 March, followed by seven going in the same direction on 23 March. At least 40 birds, which had roosted in the fields at Bomi on 24–25 March, had all left by the evening of the 25th, presumably in an easterly or south-easterly direction.

WHITE-TAILED EAGLE *Haliaeetus albicilla* At least three (one adult and two immatures) c. 8 km west of Lhasa on 4 March, and single adult and immature birds at Gúcang, on 11 and 12 March respectively, both moving in an easterly direction. These appear to be the first records for Xizang province and South-east Tibet. It has previously been recorded from north-east Qinghai province in the Northern and Outer Plateau regions (Sien et al. 1964, Vaurie 1972).

HIMALAYAN GRIFFON VULTURE *Gyps himalayensis* Several seen at the following localities: Gúcang, 10–16 March; Rawu, 28 March; between Baxoi and Bamda, 30 March; between Bamda and Qamdo, 31 March; c. 7 km north of Qamdo, 2 April; between Qamdo and Sagoo, 3 April; between Sagoo and Hsün-ta, 4 April; between Hsün-ta and Ganda, 5 April; between Ganda and Goixab, 6 April; between Goixab and Nangqên, 7–8 April; between Nangqên and Doramarko, 9 April; between Doramarko and Yushu, 10 April; and at Yushu, 11 April. Surprisingly, these appear to be the first records for South-east Tibet. It has previously been recorded from the Northern and Outer Plateau regions (Vaurie 1972).

CINEREOUS VULTURE *Aegypius monachus* Two birds c. 8 km west of Lhasa on 4 March, and another just north of Lhasa on 5 March. These may be the first records for Xizang province, and the Outer Plateau region. Zheng (1983) lists it for southern and western Xizang, but appears to give no specific locations. It has been recorded from the Northern Plateau region and South-east Tibet, as far south as Tongchi Gompa (33°25'N 97°03'E) in south-east Qinghai province (Vaurie 1972).

NORTHERN HARRIER *Circus cyanus* One moving east at Gúcang on 12 March, followed by another two on 13 March, three at Tangmai on 22 March, one at Sumzoom on 27 March, one c. 7 km north of Qamdo on 1 April, one between Qamdo and Sagoo on 3 April, and one between Ganda and Goixab on 6 April. Zheng (1976) maps it across southern South-east Tibet as a winter visitor, without specific location, and Meyer de Schauensee (1984) also mentions it as a winter visitor to the region, but no definite records for the region, prior to ours, have been traced. It has previously been recorded from the Northern and Outer Plateau regions (Vaurie 1972).

MARSH HARRIER *Circus aeruginosus* One between Yushu and Madoi, at c. 4,085 m, on 12 April. This may be the second record for Qinghai province. It has previously been recorded from the Zaidan (April, August) and northern Chang Tang (September) in the Northern Plateau region, and southern Xizang in the Outer Plateau region (Vaurie 1972).

NORTHERN GOSHAWK *Accipiter gentilis* One moving east at Gúcang on 13 March.
NORTHERN SPARROWHAWK *Accipiter nisus* Two moving east at Gāncang on 13 March.

COMMON BUZZARD *Buteo buteo* Single birds at Gāncang on 11 and 13 March, the latter moving in an easterly direction. It appears that this species has previously only been recorded from the northern part of South-east Tibet. It has also been recorded from eastern Qinghai province, in the Outer Plateau region (Vaurie 1972).

STEPPE EAGLE *Aquila rapax nipalensis* At least 25 in the Lhasa area on 4–5 March, at least 46 moving east at Gāncang on 13 March, followed by singles on 15 and 16 March, and two birds moving in a north or north-easterly direction at Donggu on 19 March. These may be the first records for Xīzàng province. Zheng (1983) lists it for western Xīzàng, but appears to give no specific localities. It has been recorded from north-east Qinghai province, in the Outer Plateau region, and northern South-east Tibet, as far south as Ge Chu (32°08'N 96°48'E) in south-east Qinghai (Vaurie 1972).

GOLDEN EAGLE *Aquila chrysaetos* One between Gānden and Gāncang on 9 March, at least six at Gāncang, 10–16 March, one at Tangmai on 22 March, and two more on 23 March, one or two at Bonni on 25 March, two or three at Rawu on 28 March, three or four c. 7 km north of Qamdo on 1–2 April, two or three between Qamdo and Sago on 3 April, and several, including a pair displacing, between Sago and Heün-ta on 4 April. Surprisingly, there only appears to be one previous record for Xīzàng province, from Nom Chu (32°02'N 98°13'E) (Vaurie 1972). Zheng (1983) lists it for southern Xīzàng, but appears to give no specific localities. It has been recorded from north and north-east Qinghai province, in the Northern and Outer Plateau regions (Vaurie 1972).

SAKER FALCON *Falco cherrug* Two pairs, believed to be breeding, in hills at the western end of Xīzhai Hu on 18 April. One bird was observed for over 20 minutes, sitting very tight on a nest, and presumably incubating, with its mate keeping watch nearby. Another pair were seen chasing one another, possibly as part of some sort of display, in the vicinity of another nest.

COMMON COOT *Fulica atra* One, a few kilometres north-west of Qamdo, on 3 April. This appears to be the first record for South-east Tibet. Zheng (1976) maps it across South-east Tibet as a winter visitor, without specific location, but no definite records for the region, prior to ours, have been traced. It has been recorded from the Northern and Outer Plateau regions (Vaurie 1972).

COMMON CRANE *Grus grus* A single bird came down very low under heavy cloud before heading off north, at Tangmai, on 21 March. The following day, at the same locality, a flock of 16 cranes, probably this species, went through in the same direction. This appears to be the first record for Xīzàng province and South-east Tibet. Zheng (1983) lists it for eastern Xīzàng, but appears to give no specific localities. It has been recorded from the Northern Plateau region (Vaurie 1972).

BLACK-NECKED CRANE *Grus nigricollis* Two or three groups, totalling at least 57 birds, c. 8 km west of Lhasa, on 4 March, another two flocks of c.41 and c.15, between Lhasa and Gānden (three hours by bus east of Lhasa), on 8 March, and a flock of 23+ to the east of Gānden, on 9 March. This species was listed by Vaurie (1972) as one of the six endemic Tibetan birds (but see, e.g. Clements and Bradbear, Forktail, this issue).

NORTHERN LAPWING *Vanellus vanellus* One at Rawu on 28 March, and another a few kilometres north-west of Qamdo on 3 April. These may be the first documented records for South-east Tibet. Zheng (1976) maps it across southern South-east Tibet as a winter visitor, without specific location, and Ludlow (1951) says it passes through South-east Tibet during spring and autumn migration, but gives no details. No other records for the region have been traced. It has been recorded from the Northern and Outer Plateau regions (Vaurie 1972).

EURASIAN WOODCOCK *Scolopax rusticola* One at Gāncang on 14 March. This appears to be only the fifth record for Xīzàng province. From South-east Tibet there were two previous records quoted by Vaurie (1972), and another by Li et al. (1978), and from Lhasa, in the Outer Plateau regions, a single bird (Ludlow 1950).

GREAT BLACK-HEADED GULL *Larus ichthyaetus* One on the Mekong at Nanggân on 8 April, a second winter bird. This appears to be the first definite record for South-east Tibet. It has been observed to the north-east of Yushu, in south-east Qinghai province, according to Meyer de Schauensee (1984), but no details are given. It has been recorded from the Northern and Outer Plateau regions (Vaurie 1972).

COMMON BLACK-HEADED GULL *Larus ridibundus* One adult at the western end of Xīzhai Hu on 16 April. This may be the first record for the area. Vaurie (1972) lists it as a migrant for the Northern Plateau region, but gives no details other than a record from the Zaidam on 5 March by P. K. Kozlov.

MEW GULL *Larus canus* Two birds, a first winter and a second winter, at the western end of Xīzhai Hu on 16 April. These appear to be the first records for Qinghai province and the Northern Plateau region. The nearest previous records are from Sichuan and Shaanxi provinces (Zheng 1976).

HERRING GULL *Larus argentatus* One second winter or second summer bird, at the western end of Xīzhai Hu, on 17 April. I could not determine the subspecies of this bird, but it most resembled *L. a. heuglini* or *L. a. barabensis*. The former is sometimes considered conspecific with Lesser Black-Backed Gull *L. fuscus*, and is said to hybridise with *L. a. vegae* in northern central Siberia, producing a hybrid population which has been named *L. f. taimyrensis* (Crimp and Simmons 1983). This appears to be the
first record for Qinghai province and the Northern Plateau region, the nearest previous record being in Kansu province (Zheng 1976).

PALLAS’S SANDGROUSE Syrrhopus paradoxus At least 20-30 birds on the Bird Island peninsula, at the western end of Qinghai Hu, on 17 April. Several birds were seen at the same locality in 1984 (M. A. S. Beamum verbally). These appear to be the first records for the Qinghai Hu region. It was recorded previously in the Northern Plateau region from the Zaizam (Vaurie 1972), and mapped to the north-east of Qinghai Hu, probably in Kansu province, by Zheng (1976).

HIMALAYAN SWIFTLET Collocalia brevirostris A flock of at least 50, c.7 km south-west of Tangmai, on 23 March, and another flock of at least 40 a few kilometres south-east of Tangmai, along the Po Tsangpo, on 24 March. There only appear to have been two previous records for Xizang province. Zheng (1976) has mapped it in southern Xizang, in the Outer Plateau region (c.28°50’N 91°00’E), and Meyer de Schauensee (1984), presumably based on Zheng (1976), says it occurs in south Tibet (Xizang). The other record is of four birds collected in April, May and August to the south of the ‘Big Bend’ in the Tsangpo (29°50’N 95°05’E), South-east Tibet, reported on by Zheng (1983).

GREAT BARBET Megalaima virous Several birds calling daily in the Tangmai area, 20-23 March, with a maximum of five on 22 March. These appear to be the first records for south-east Tibet, and the second for Xizang province, the only previous record there being of four birds collected in May 1974 in the Outer Plateau region, near the border with central Nepal (Cai et al. 1977).

BAY WOODPECKER Rhithipicus pyrhotes One or two heard calling from evergreen forest c. 7 km south-west of Tangmai on 20 March, and one seen in evergreen forest a little way along the Yigrom Chü, near Tangmai, on 22 March. These appear to be the first records for Xizang province and South-east Tibet. It is already known to occur across the border in Arunachal Pradesh, India (Ali 1977).

BARN SWALLOW Hirundo rustica At least four or five between Qamdo and Sagoo on 3 April. This appears to be the only third record for South-east Tibet and the fifth for Xizang province. One of the previous records for South-east Tibet was from a locality close to ours (Zheng 1983).

NEPAL HOUSE MARTIN Delichon nipalensis At least 50 between Dongjig and Tangmai on 20 March. This appears to be the first record for South-east Tibet and only the second for Xizang province. The only previous record was of seven birds collected in southern Xizang, in the Outer Plateau region, just north of the border with central Nepal, in June 1976 (Zheng 1980).

WATER PIPT Anthis spinolleta One at Nyingchi on 17 March, and another possible heard at Rawu on 28 March. The bird at Nyingchi was probably of the race A. s. blakistoni, which is less heavily streaked on the underparts in winter plumage than A. s. japonicus. This appears to be the first record for Xizang province and South-east Tibet. It has previously been recorded from the Northern and Outer Plateau regions, as far south as Yushu in south-east Qinghai province, northern South-east Tibet (Vaurie 1972).

BROWN DIPPER Cinclus pallasi One, a few kilometres west of Dongjig, on 18 March, five or six at Dongjig on 19 March, at least two, up to a few kilometres east of Dongjig, on 20 March, and one at Tangmai on 22 March. There only appears to be one previous record for South-east Tibet, from Buo in the northern part of the region (Vaurie 1972). The species has also been recorded from southern Xizang, in the Outer Plateau region (Vaurie 1972, Zheng 1983), and the Xining area, north-east Qinghai province, also in the Outer Plateau region (Sien et al. 1964).

BLACK REDSTART Phoenicurus ochruros Two males at Rawu on 28 March. It appears that previously this species had only been recorded from the northern part of South-east Tibet. It has been recorded widely in the Northern and Outer Plateau regions (Vaurie 1972).

PLUMBEOUS REDSTART Rhyacornis fuliginosus One male on the Salween between Baxoi and Bamda on 30 March. This record appears to be to the north-east of those previously listed for South-east Tibet (Ludlow 1951, Vaurie 1972, Zheng 1983). It has also been recorded from southern Xizang, in the Outer Plateau region (Vaurie 1972, Zheng 1983).

DESERT WHEATEAR Oenanthe deserti One male, c. 8 km west of Lhasa, on 4 March. This appears to be the earliest record for Xizang and Qinghai provinces. According to Vaurie (1972:158) the earliest record is 2 April, but he also mentions a record from the upper Hwang Ho in March (1972:282).

BLUE ROCK THRUSH Monticola solitarius One male above the Drepung Monastery, near Lhasa, on 7 March. This appears to be the first record for the Lhasa area. The nearest previous record was from Kharta Shika (28°05’N 87°19’E), over 500 km to the south-west (Vaurie 1972). It has also been recorded in southern Xizang, near the border with central Nepal, and western Xizang, in the Outer Plateau region (Zheng 1983).

NAUMANNI’S THRUSH Turdus naumannii One, of the nominate race, at Guncang, on 12 March, with Red-throated Thrushes T. ruficollis. This appears to be the first record for Xizang province. It has previously been recorded from the Zaizam (10 October) and Dado (36°41’N 101°30’E, 27 October), Qinghai province, in the Northern and Outer Plateau regions respectively (Vaurie 1972). There are also two records from the Qinghai–Kansu border east of Xining (Sien et al. 1964).

RED-THROATED THRUSH Turdus ruficollis Two at Rawu on 28 March, one or two between Bamda and Qamdo on 31 March, one c. 7 km north of Qamdo on 2 April, three between Bamda and Goinxab on 6 April, and one between Nangqên and Doramakog on 9 April. It appears that all previous
records from South-east Tibet were from the western part of the region. It has also been recorded from the Northern and Outer Plateau regions (Vaurie 1972).

GREY-CHEEKED WARBLER *Seicercus poliogenys* Four or five, including one singing, in undergrowth in evergreen forest, c. 7 km south-west of Tangmai, on 23 March. This appears to be the first record for Xizang province and South-east Tibet. It is known to occur across the border in Arunachal Pradesh, India (Ali 1977).

CHESTNUT-CROWNED WARBLER *Seicercus castaneiceps* Two or three, a little way along the Yigrong Chu, near Tangmai, on 22 March, two or three c. 7 km south-west of Tangmai on 23 March, and one a few kilometres south-east of Tangmai, along the Po Tsango, on 24 March. Not listed for Tibet by Vaurie (1972), but mapped by Zheng (1976) in southernmost South-east Tibet and mentioned by Meyer de Schauenssey (1984). The locality given by Zheng is outside the Chinese international border according to the *Times atlas of the world*. This species was reported from two localities in South-east Tibet by Li et al. (1978).

BLACK-FACED WARBLER *Abroscopus schisticeps* One between Dongjiug and Tangmai on 20 March, common in flocks along the Yigrong Chu near Tangmai, and up to c. 7 km south-west of Tangmai, on 21–23 March. Previously only recorded in South-east Tibet from one locality, in the same area as ours (Ludlow 1951). It has recently been recorded in southern Xizang, in the Outer Plateau region (Zheng 1983).

KOZLOV’S BABAX *Babax kozlovi* At least five at Sagoo on 4 April, four at Hsün-ta on 5 April, and one in a narrow gorge east of the Moxong, near Nangqên, on 9 April. These appear to be the first sightings of *B. k. kozlovi* for about 70 years. The southern race, *B. k. yuguenesis*, has been recorded recently from three localities in South-east Tibet (Li et al. 1978, Li and Wang 1979, Zheng 1983). This species is listed by Vaurie (1972) as one of the six endemic Tibetan birds.

STRIATED LAUGHINGTHRUSH *Garrulax striatus* Two, in evergreen forest c. 7 km south-west of Tangmai, on 23 March. There appear to be records from two other localities in South-east Tibet. It was recorded from a locality near ours (Ludlow 1951), and one to the south of ours, along the Tsango (Zheng 1983). It has also recently been recorded from southern Xizang, in the Outer Plateau region (Zheng 1983).

BLACK-EARED SHRIKE-BABBLER *Pteruthus melanotis* One male in a mixed-species flock, in evergreen forest a little way along the Yigrong Chu, near Tangmai, on 22 March, and another two males in a mixed-species flock, in evergreen forest c. 7 km south-west of Tangmai, on 23 March. These appear to be the first records for Xizang province and South-east Tibet. The species is known to occur across the border in Arunachal Pradesh, India (Ali 1977).

YELLOW-THROATED FULVETTA *Alcippe cinerata* Two flocks, of five and ten respectively, in undergrowth in evergreen forest c. 7 km south-west of Tangmai, on 23 March. This appears to be only the second record of this little known babbler for Xizang province and South-east Tibet. It was previously recorded from Trulu (30°03'N 95°03'E) in January 1947 (Ludlow 1951).

BLACK-THROATED TIT *Aegithalos concinnus* Common along the Yigrong Chu near Tangmai, up to c. 7 km south-west of Tangmai, and a little way south-east of Tangmai, along the Po Tsango, over 21–23 March. This appears to be only the second known locality for this species in south-east Tibet. It was previously recorded in flocks in winter at a locality near ours (Ludlow 1951). Recently it has also been recorded from southern Xizang, in the Outer Plateau region (Zheng 1983).

WILLOW TIT *Parus montanus* One at Rawu on 28–29 March. It appears that previously this species has only been recorded from the northern part of South-east Tibet. It has been recorded widely from east and north-east Qinghai province, in the Outer Plateau region (Vaurie 1972).

BROWN-THROATED TREECREEPER *Certhia discolor* Several seen daily in the Tangmai area, 21–23 March. This appears to be the first record for South-east Tibet and only the second for Xizang province. The only other record is of a bird collected on 11 June 1977 in southern Xizang, in the Outer Plateau region, near the border with Sikkim and Bhutan (Li et al. 1979).

CHINESE GREY SHRIKE *Lanius sphenocercus* One, twice seen patrolling the edge of alpine meadows at c. 4,100 m above Gúncang, on 11 and 16 March. This may be the first record for Xizang province. Zheng (1983) lists it for eastern Xizang, but appears to give no specific localities. It has been recorded from north-east, east and south-east Qinghai province as far south as Dzogchen Gompa (32°07'N 98°34'E), in northern South-east Tibet (Vaurie 1972).

YELLOW-BILLED CHOUGH *Pyrrhocorax graculus* At least six at Rawu on 28–29 March. It appears that this species has previously only been recorded as far east as Pune District (30°15'N 95°00'E) in South-east Tibet. It has also been recorded from southern and western Xizang (Zheng 1983) and north-east Qinghai province (Vaurie 1972), in the Outer Plateau region.

DAURIAN JACKDAW *Corvus dauricus* An apparent breeding colony of c. 20 birds at Bomi on 25–26 March. This appears to represent a range extension north-west along the Po Tsango in South-east Tibet. It has been recorded from north-east and southern South-east Tibet, and north-east and eastern Qinghai province, in the Outer Plateau region (Vaurie 1972).

COMMON STARLING *Sturnus vulgaris* A flock of six at Nangqên, on 8 April. This appears to be the first record for South-east Tibet. It has been recorded from the Northern and Outer Plateau regions (Vaurie 1972, Zheng 1983).
RUFOUS-NECKED SNOWFINCH *Montifringilla ruficollis* Abundant on high, open plateau north of Bamda on 31 March. This appears to be an extension southwards of its known range in South-east Tibet, into the central part of the region. It has also been recorded from the Northern and Outer Plateau regions (Vaurie 1972).

WHITE-RUMPED SNOWFINCH *Montifringilla taczanowskii* Common in high, open plateau country (above 4,100 m) north of Bamda on 31 March. This appears to confirm an extension south and westward of its known range in South-east Tibet, into the central part of the region. Apart from a recent record from Markam (29°80'N 98°50'E) to the south-east of our locality (Zheng 1983), all previous records have been to the north of ours (Vaurie 1972). Many of the birds we saw were paired and displaying in the vicinity of pika *Ochotona* burrows. The species is listed by Vaurie (1972) as one of the six endemic Tibetan birds. It has also been recorded from the Northern and Outer Plateau regions (Vaurie 1972).

LAPLAND LONGSPUR *Calcarius lapponicus* One seen and heard on the Bird Island peninsula, at the western end of Qinghai Hu, on 17 April. This appears to be the first record for Qinghai province, and the Northern Plateau region. It has been recorded by W. Beick in western Kansu province (c. 37°35'N 102°20'E) in April (Vaurie 1972, Zheng 1976).

KOZLOV’S BUNTING *Emberiza kozlovi* A flock of 12 (11 males and one female) on the edge of a pass, at c. 4,050m, just before (east of) Coinxab, on 6 April. The flock was very confiding as it fed on open ground on a bank above the path. Nearby there were steep grassy ridges with scattered junipers and bushes, which presumably would be suitable breeding habitat for this bird. This rare and little known species was apparently last recorded in April and May 1935 (Schäfer 1938, Schäfer and Meyer de Schauensee 1939), and prior to that only by P. K. Kozlov in August and September 1900 and January 1901. It is listed by Vaurie (1972) as one of the six endemic Tibetan birds.

LITTLE BUNTING *Emberiza pusilla* At least ten at Tangmai on 21–23 March, a total of at least 30 up to c. 10 km south-east of Tangmai along the

Figure 2. Our itinerary in Western China, with various political and zoogeographic boundaries.
Po Tsangpo on 24 March, two at Bomi on 25 March, and two at Rawu on 28 March. These appear to be the first records for Xizang province and South-east Tibet. It is known to occur across the border in Arunachal Pradesh, India (Ali 1977).

LOCALITIES VISITED

Listed below are 23 localities corresponding to the numbers on Figure 2. Coordinates for localities 1–18 were taken from an American Operational Navigation Chart (DMAAC 1984), and coordinates for localities 19–23 from the new Bartholomew map (Bartholomew 1985).

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REFERENCES


Conservation priorities in the Philippine Archipelago

PAUL HAUGE, JOHN TERBORGH, BLAIR WINTER, AND JOHN PARKINSON

To determine how conservation planning should most efficiently proceed so as to protect all the Philippine Archipelago's terrestrial vertebrate species, we took the island having the largest total number of species (Mindanao), identified the island containing the greatest number of species not found on Mindanao, and repeated this procedure until an asymptote began to be approached. This process was most critical from the point of view of conservation since it is difficult to plan conservation areas that may be responsible for the greatest overall number of species that are found on the Philippine Archipelago. Together they contain 86% of all Philippine terrestrial vertebrate species.

Single-island endemics (Philippine species that occur on only one island) constitute an important part (176 species, or 28%) of the terrestrial vertebrate fauna. Mindanao and Palawan are the key islands, containing 72% of all single-island endemics. The creation and management of parks and reserves on these three islands should therefore have the highest priority in the overall conservation plan for the Philippines. Smaller islands, however, also merit attention since they hold significant numbers of endemic species, which are especially vulnerable to extinction. The trends in both total species numbers and in numbers of single-island endemics are strongly convergent in the four classes of vertebrates, suggesting that a conservation plan optimal for, say, mammals, would also be optimal or nearly so for other taxa.

The Philippine Archipelago consists of a vast array of more than 7,000 islands lying between 5° and 25°N and between 117° and 127°E in the western Pacific Ocean. The biota of these islands is exceptionally rich and includes large numbers of species that occur nowhere else in the world. Within the archipelago the biogeographic situation is exceedingly complex. Species richness may vary greatly from one island to the next, and many islands possess unique endemics. Furthermore, there are marked gradients in species composition along the chain resulting from the fact that the archipelago has been colonized by species invading from the south and south-east through Mindanao, from the south-west through Palawan, and from the north through Luzon (Inger 1954), although the Luzon (from Taiwan) and Palawan routes have been rejected for certain taxa (Heaney 1986). The picture has been made more complex by the occurrence of numerous small-scale radiations within the archipelago itself. Superimposed on these patterns are the effects of a Pleistocene history of repeated landbridge connections between many of the islands, and possibly between the Philippines and the emergent Sundaland Shelf.

All these layers of complexity have produced intricate patterns of distribution. While these very intricacies have provided a major source of fascination for biogeographers (Taylor 1922, Inger 1954, Leviton 1959, and Gilpin 1983, Heaney 1986), they are bound to confound any studied attempt to formulate an overall conservation plan for