

# The rediscovery of Giant Ibis *Pseudibis gigantea* with a review of previous records

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## Summary

The Giant Ibis *Pseudibis gigantea* was formerly more widespread in mainland South-East Asia, being found in Thailand, Cambodia, Laos and Vietnam. However, it has always been scarce throughout its range and has declined dramatically over the past 50 years as a result of habitat destruction, disturbance and hunting. This paper documents the species's decline with a review of all previous records including the recent sightings between 1993 and 1995, and suggests conservation measures to be taken for its continued survival.

## Introduction

In 1877, E. Oustalet described the Giant Ibis as *Ibis gigantea* from a single specimen collected in Cochinchina, the specific name *gigantea* referring to its exceptionally large size (Oustalet 1877a,b). Even during the nineteenth and early twentieth centuries the Giant Ibis, now known as *Pseudibis gigantea*, was considered a fairly rare bird and it has since declined greatly throughout its former range. It is endemic to a restricted part of South-East Asia, covering Cochinchina (Vietnam), south and central Laos, Cambodia, south-east and peninsular Thailand (Delacour and Jabouille 1931, King *et al.* 1975). It is considered Critically Endangered by Collar *et al.* (1994).

## Recent records

On 3 February 1993 during a survey of Dong Kalo, which lies within the Xe Piame National Biodiversity Conservation Area (NBCA) in Champassak Province, Laos, a Giant Ibis was watched briefly at 09h45 wading in a small pool on the stagnant Houei Kaling River (14°02'N, 106°03'E) which lies at 110 m above sea level. Due to the close proximity of the five observers, it promptly took off; 10 to 15 seconds later it came back and flew overhead at *c.* 15 m. It appeared wholly blackish with the bill, head and neck a paler grey colour. At this time of year (the dry season), the Houei Kaling was a 5-m-wide dry stream bed with scattered pools along its length. The habitat on the plains surrounding is characterized by a semi-evergreen and dry dipterocarp forest mosaic, whilst the riverine fringing forest is mixed deciduous. On 13 March 1993, *c.* 50 km to the north-east of the Dong Kalo sighting, during a motorized canoe trip down the Xe Piame river en route for the Xe Kong river (the border with Cambodia), a second Giant Ibis was seen at 09h00 probing a steep grass-covered section of

collapsed bank of the Xe Pian (14°23'N, 106°17'E), which lies at 130 m above sea level. It was flushed by the canoe and flew into a tall dead tree on the riverbank. It perched there for long enough to note its generally dark plumage, paler bare head and bill, dull creamy-buff wing coverts flecked with black, and long dark pink legs. It flew off west over the river bank, out of view, over the Xe Kong Plains. The river at this point was *c.* 20 m wide, with banks *c.* 5 m high which were vertical in some places. The habitat of this region was dry dipterocarp forest with open stretches of grassland and occasional pools. The vegetation types described follow the system used by Round (1988). Many areas of the Xe Kong plains adjacent were cultivated up until *c.* 1975 and thenceforth abandoned.

These 1993 records, also recorded in Duckworth *et al.* (1993) are the first confirmed sightings from anywhere in the species's restricted world range for over 30 years. There have since been three further records. In August 1994 a single was seen along the Tonlé Sap river in Ratanakiri Province, north-eastern Cambodia (J. Barzen in Mundkur *et al.* 1995), some 100 km south-east of the Dong Kalo record. Though none was observed in 1994 by Mundkur *et al.* (1995), Giant Ibis was reported to be present but rare around Tonlé Sap lake by local people (Mundkur *et al.* 1995). It is notable that other recent aerial and water-based surveys of huge areas of Tonlé Sap, the Cambodian coast, the Stung Treng area of the Mekong and the area to the north-east failed to locate any Giant Ibis (Scott 1992, Carr 1993 and Mundkur *et al.* 1995). In May 1995 there were two additional sightings in Laos from the Xe Pian River within Xe Pian NBCA, within 20 km of the 1993 sighting; on 7 May 1995 one was disturbed from the riverbank at *c.* 16h30 and flew off into nearby dry dipterocarp forest. On 9 May 1995 a single was flushed from the riverbank at 09h30 and re-encountered *c.* 5 km downstream at 10h20 when it flew away from the river over nearby mixed deciduous forest and could not be relocated (T. Evans and R. Tizard in litt. 1995).

### Historical records

All the known records are listed in Appendix 1 and shown in Figure 1. Cambodia was the traditional stronghold of the ibis; it was described as numerous between Kompongthom and Angkor/Sambor in January 1928 where over 40 were seen (Delacour 1929). Similarly, around the shores of Tonlé Sap, the Giant Ibis and White-shouldered Ibis *Pseudibis davisoni* were not especially rare (Delacour 1928). Williamson (1921) received a pair collected in December 1918 from the island of Koh Kong, off the Cambodian coast. The collector who shot them saw at least one other.

Thomas (1964) believed that the ibis had become rarer, partly due to its being sought by Cambodians for medicine. Although previous observers listed it from widely scattered places he recorded it just twice, at a small lake 18 km north of Phnom-Penh, just south of Prek Kdam in July 1960 and February 1961. It was reported to still be fairly common in northern Kompongthom in 1962 (Coolidge, in Thomas 1964).

It is almost certainly extinct in Thailand (Round 1988, Round *et al.* 1988) where there have been no records from the peninsula since 1910 (Robinson and Kloss

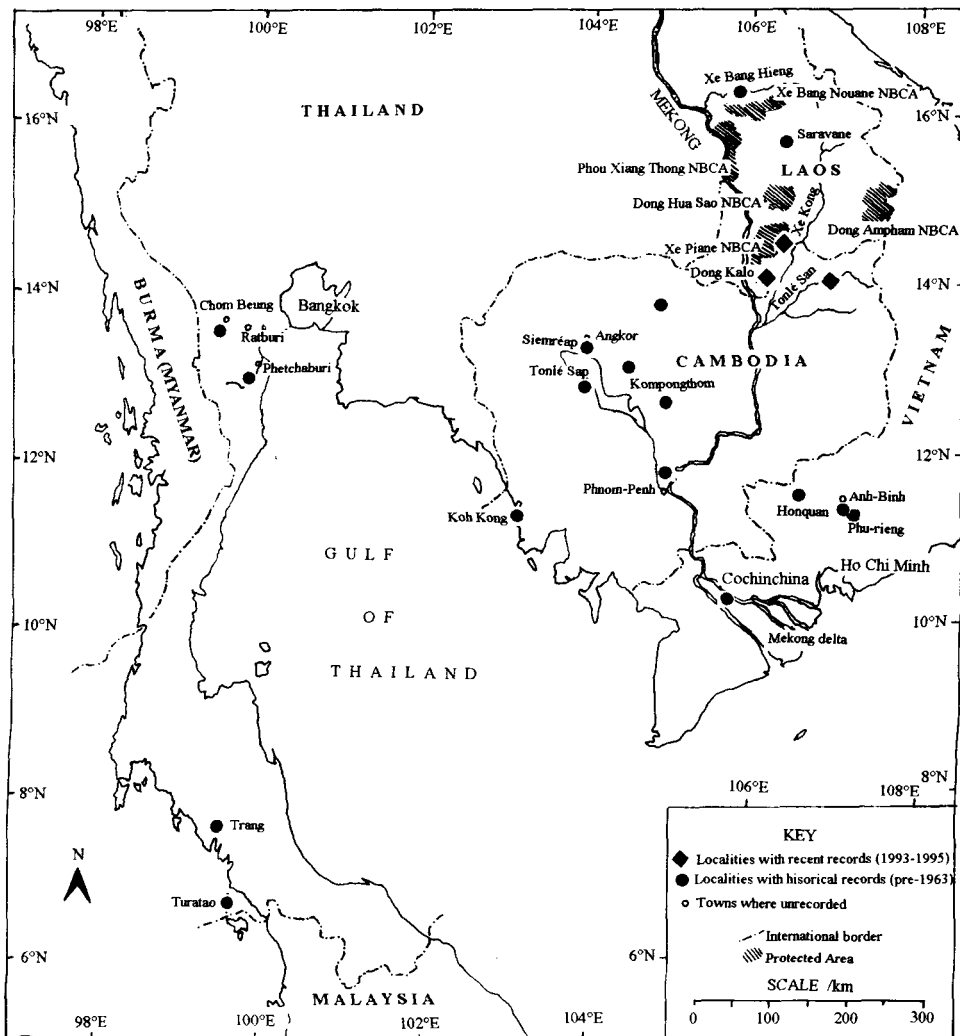


Figure 1. Map showing localities of all known records of Giant Ibis *Pseudibis gigantea*.

1910–1911) and none from Ratchaburi and Phetchaburi provinces (the only other area in Thailand where the species was reliably recorded) since March 1913 (Williamson 1916). Birds in Thailand are believed to have been migrants or strays since there are only five confirmed records. Gyldenstolpe (1920) described it as one of the rarest of known birds. There were unconfirmed reports of the species in Thailand adjacent to the Cambodian border between 1950 and 1960 (Round *et al.* 1988). Round *et al.* (1988) thought it highly unlikely that any suitable undisturbed habitat remains in Thailand.

There are only two previous records from Laos. David-Beaulieu (1949–1950) saw a pair on the Xe Bang Hieng river, whilst Engelbach (1927, 1932) saw a single in April 1926 near Saravane. Both observers resided for several years in these respective areas. This latter record is presumably that mentioned for Saravane by Delacour and Jabouille (1931). This contrasts with the historical

abundance of White-shouldered Ibis which was widely recorded and fairly common in Laos (Engelbach 1927, 1932, Delacour and Greenway 1940, David-Beaulieu 1949–1950). It may be that Giant Ibis was only ever an erratic visitor to Laos from Cambodia.

In Vietnam, Delacour *et al.* (1928) described the Giant Ibis as rare and confined to Cochinchina where it occurred in small parties; three birds were seen in March 1927 between Phu-rieng and Anh-Binh. David-Beaulieu (1932) observed it occasionally in Honquan where Schrenck's Bittern *Ixobrychus eurhythmus* was described as exceptional and rarer than Giant Ibis. There are no recent records of the species although small numbers have been claimed from the Dong Thap Muoi, an inland delta of the Mekong (Luthin 1986), though this claim is not discussed by Collar *et al.* (1994).

### Behaviour and ecology

The Giant Ibis inhabited similar habitats to White-shouldered Ibis: open plains of sandy dry deciduous woodland with scattered pools, swampy glades and rivers flowing through (Delacour 1929, Engelbach 1951). It was generally encountered in pairs or families (Delacour and Jabouille 1931). In Cochinchina it occurred among waterfowl and large waterbirds along rivers situated between plantations and large lakes (David-Beaulieu 1932). Its diet is reported to be similar to that of other ibises: locusts, cicadas and seeds, though the stomach of one bird contained many crabs (Delacour 1929, Delacour and Jabouille 1931). They were very shy of humans and extremely difficult to approach, this shyness contributing to their scarcity in museum collections (Delacour 1928, 1929). In times of drought they are said to congregate at large waterholes (Humphrey and Bain 1990). Breeding behaviour, clutch sizes and other demographic characteristics are unknown (Humphrey and Bain 1990), as are its movements.

### Prospects for conservation

Due to its very restricted range within which the ibis occurs at low density, its large size and consequent susceptibility to hunting at foraging and breeding areas, this is one of the most endangered bird species in South-East Asia (Luthin 1986). Round (1988) listed it as extinct in Thailand as a result of forest destruction, direct human persecution and the drainage of wetlands. He also states that the loss of secure feeding, roosting and nesting areas rather than deforestation itself as having brought about the decline. Much of the species's habitat has been destroyed by drainage for rice and other crops and by the ravages of war which has plagued the region for decades (Hancock *et al.* 1992, Humphrey and Bain 1990). Furthermore the ever-increasing human population in parts of its range imply that only protection in nature reserves can give it a chance of survival. In Laos, it has become evident that the Giant Ibis is just one of many wetland bird species which appears to have undergone a dramatic decline in the last 50 years probably for similar reasons to those in Thailand.

The presence of Giant Ibis in southern Laos is of very high conservation significance. These recent sightings all come from within the Xe Piane NBCA which has been legally established since 1993. This protected area covers much

of the potential habitat within southern Laos. Other areas of suitable habitat are covered by a network of other established and proposed NBCAs in the region, all of which are linked to some degree. There are however, still areas of suitable habitat which lie outside existing and proposed NBCA boundaries (especially west of the Mekong). There are a number of necessary steps which must be taken both in Laos and in Cambodia, where Giant Ibises are also likely to breed:

1. Location of suitable habitat. The most pressing areas being east of the Mekong adjacent to Xe Pian NBCA, composed of the entire southern tip of Laos (Dong Kalo area), the entire area of south-west Champassak Province on the west bank, and also the Xe Kong Plains (see Figure 1).
2. Confirmation of areas where Giant Ibis is present, identifying population size and establishing its feeding and breeding requirements.
3. Legal protection of habitat
4. Local protection programme heavily based on education.

International co-operation, especially on the Laos–Cambodia border area, involving an integrated conservation and development programme with an interlinked trans-boundary refuge system, would greatly assist the survival of the species (and others of conservation interest) if it is not already too late to prevent the loss of this magnificent bird.

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### Appendix 1. Known localities of Giant Ibis giving numbers of birds recorded and reference source.

#### *Cambodia*

Between Kompongthom and Angkor / Sambor (12°33'N, 104°50'E–13°25'N, 103°55'E). Over 40, January 1928; Delacour (1929)

Between Siemréap and Kompongthom (12°33'N, 104°50'E–13°25'N 103°45'E). One pair (the female of which was collected); Delacour (1929)

Near Kompongthom, (12°33'N, 104°50'E). One single, 6 April 1923; Delacour and Jabouille (1925)

Around the shores of Tonlé Sap (12°30'–13°25'N, 103°36'–104°26'E). "Not especially rare"; Delacour (1928)

Koh Kong island, off the Cambodian coast (11°17'N, 102° 58' E). Pair and a single collected, December 1918; Williamson (1921).

18 km north of Phnom-Penh (11°30'N, 104°52'E). Singles, July 1960 and February 1961; Thomas (1964).

Northern Kompongthom (c. 13°35'–14°15'N, 103°30'–105°10'E). "Fairly common", 1962: Coolidge, in Thomas (1964)

Siemréap (13°25'N, 103°45'E). Single, 1932; Dickinson (1970)

Tonlé San river, Ratanakiri Province (13°20'N, 106°10'E – 13°45'N 107°10'E) Single, August 1994; J. Barzen in Mundkur *et al.* (1995)

#### *Thailand*

Trang, peninsular Thailand (07°35'N, 99°35'E). Two collected, 1910; W.L. Abbott, and Robinson and Kloss (1910–1911).

Phetchaburi River (12°50'N, 99°50'E). Single seen, April 1910; Williamson (1916)

Ban Tup Takoh, near Chom Beung, Ratburi Province (13°42'N, 99°40'E) (Chom Beung). Single, collected in March 1913; K. G. Gairdner, in Williamson (1916)

Turatao Island (06°30'N, 99°40'E). One collected, date unknown; Gibson-Hill (1949)

Just South of Koh Lak (Locality unknown). *Single, date unknown*; Robinson and Kloss (1921)

#### *Laos*

Xe Bang Hieng river, Savannakhet Province (16°10'N, 106°00'E). One pair; David-Beaulieu (1949).

Near Saravane (c. 15°45'N, 106°20'E). Single, April 1926; Engelbach (1932). Same record listed by Delacour and Jabouille (1931)

Dong Kalo, Xe Piane NBCA, Champassak Province (14°02'N, 106°03'E). Single, 3 February 1993

Xe Piane river, Xe Piane NBCA, Attopeu Province (14°23'N, 106°17'E). Single, 13 March 1993

Xe Piane river, Xe Piane NBCA, Attopeu Province (14°23'N, 106°17'E). Single, 7 May 1995

Xe Piane river, Xe Piane NBCA, Attopeu Province (14°23'N, 106°17'E). Single, 9 May 1995

#### *Vietnam*

Cochinchina, banks of the Mekong (c. 09°35'–10°50'N, 105°10'–106°30'E). Single, holotype collected May 1876; Oustalet (1877a,b)

Between Phu-rieng and Anh-Binh (c. 11°37'N, 106°51'E). Small parties, three: March 1927; Delacour *et al.* (1928)

Phu-rieng (11°34'N, 106°50'E). A pair and a young bird collected, April 1925; David-Beaulieu (1932)

Honquan (11°30'N, 106°35'E). Occasional; David-Beaulieu (1932)



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