

## ARUNACHAL PRADESH

IN-AR

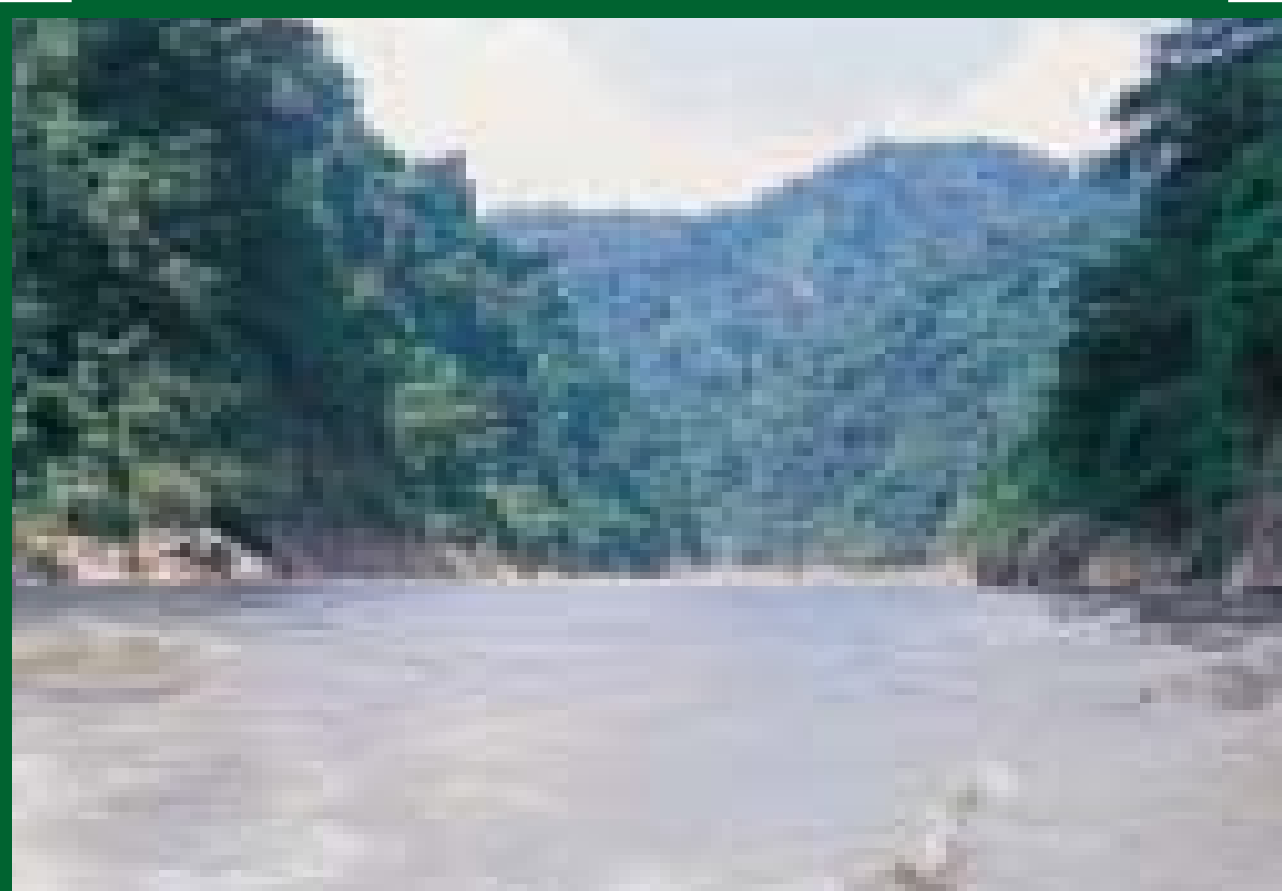


Photo: Aasad R. Rahmani

A large dam is planned on the lower Subansiri which will drown a large part of primary forest.

The state of Arunachal Pradesh (26° 40' - 29° 27' N, 91° 35' - 97° 24' E), which is the land of the 'dawn-lit mountains', is a thinly populated and mountainous tract on the easternmost part of India. It is surrounded on three sides by the international border; Bhutan to the west, China to the north and Myanmar to the east. The state of Assam lies to the south. The total geographical area of the state is 8.37 million ha, which is 2.5% of the land area of the country. Being part of the Eastern Himalayas, the State is mostly hilly and mountainous. The mountains towards the east of the Siang river are known as the Mishmi Hills. Eastern and southeastern areas are dominated by the Dapha Bum and Patkai Ranges. Small areas of flat plains occur along the larger rivers such as the Siang, Dibang and Lohit. The higher areas, especially the peaks of the Great Himalayas remain snow-capped throughout the year. The highest peak is Kangto, 7090 m (23,260 ft) in the Great Himalayas.

The present State came into existence in 1987. Originally, this tract was administered by the Governor of Assam and was divided into three large divisions, Balipara Frontier Tract (present Tawang, West Kameng, East Kameng, Upper Subansiri, Lower Subansiri and Papum Pare districts), Sadiya Frontier Tract (present Upper Siang, West Siang, East Siang, Dibang Valley and Lohit Districts) and Tirap Frontier Tract (present Changlang and Tirap Districts). Till 1972, it was known as NEFA (North-East Frontier Agency). In 1972 it was renamed as Arunachal Pradesh and was administered as a union territory till 1987 (Choudhury 2003a).

The climate of Arunachal Pradesh (except for the Great Himalayas and higher areas of the Lesser Himalayas and the Mishmi Hills, which may be termed as 'mountain type') is tropical 'monsoon' type with a hot wet summer and a cool dry winter. The annual rainfall of the state varies from less than 1500 mm to more than 4000 mm. The temperature generally ranges from 0 °C in winter (minimum) to 35 °C in summer (maximum). The main features of this mountain climate are a sharp contrast between the sun and the shade temperatures, high diurnal range of temperature, inversion of temperature and variability of rainfall depending upon exposure and elevation.

The human population of Arunachal Pradesh is 1.09 million (0.1% of the country's population), of which 79.6% is rural (2001 census). The population density is 13 persons per sq. km. The cultural diversity of Arunachal Pradesh is also noteworthy with at least 20 major tribes that are divided again into a number of sub-tribes.

The bulk of the land area is still covered by forests and grassland (high altitude) or is still in its natural state, thus making forestry as the most important land use. Arunachal Pradesh is rich in mineral wealth such as oil (petroleum) and natural gas. Tea is also grown in the eastern areas.

There are well known protected areas in Arunachal Pradesh such as the Namdapha National Park and Pakke (Pakhui) Sanctuary. Both are also tiger reserves under Project Tiger.

#### Vegetation

Arunachal Pradesh is ranked second among the states and Union Territories in terms of area under forest cover (Ministry of Environment and Forests 2001). The state has broadly six types of forests, Tropical Wet Evergreen (Rain Forest), Subtropical Broadleaf, Subtropical Conifer, Temperate Broadleaf, Temperate Conifer and Sub-Alpine Forests/Alpine Scrub. Small Savanna Grassland patches occur along the major rivers.

As per the Forest Survey of India report of 2001, the forest cover area is 51,540,00 ha, constituting 61.5% of the total geographical area of the State and 6.7% of the country's forest area. Out of this, reserved forest constitutes 38.6%, and 'unclassed Forest' 61.4%; about 5.14 million ha is state-owned and 15,500 ha is under private ownership. The dense forest constitutes 64.4%, open forest 16.9% and non-forest area 18.7% of the total forest area (Ministry of Environment and Forests 2001).

#### IBAs AND PROTECTED AREAS

A total of 0.96 million ha of the forest area, constituting 11.44% of the geographical area is under two national parks (0.25 million ha) and 10 wildlife sanctuaries (0.71 million ha). Namdapha is an important Tiger Reserve. The Dehang-Debang is one of the eleven Biosphere Reserves of the country. Arunachal Pradesh has the second highest number of IBAs in northeast India.

#### Number of IBAs and IBA criteria

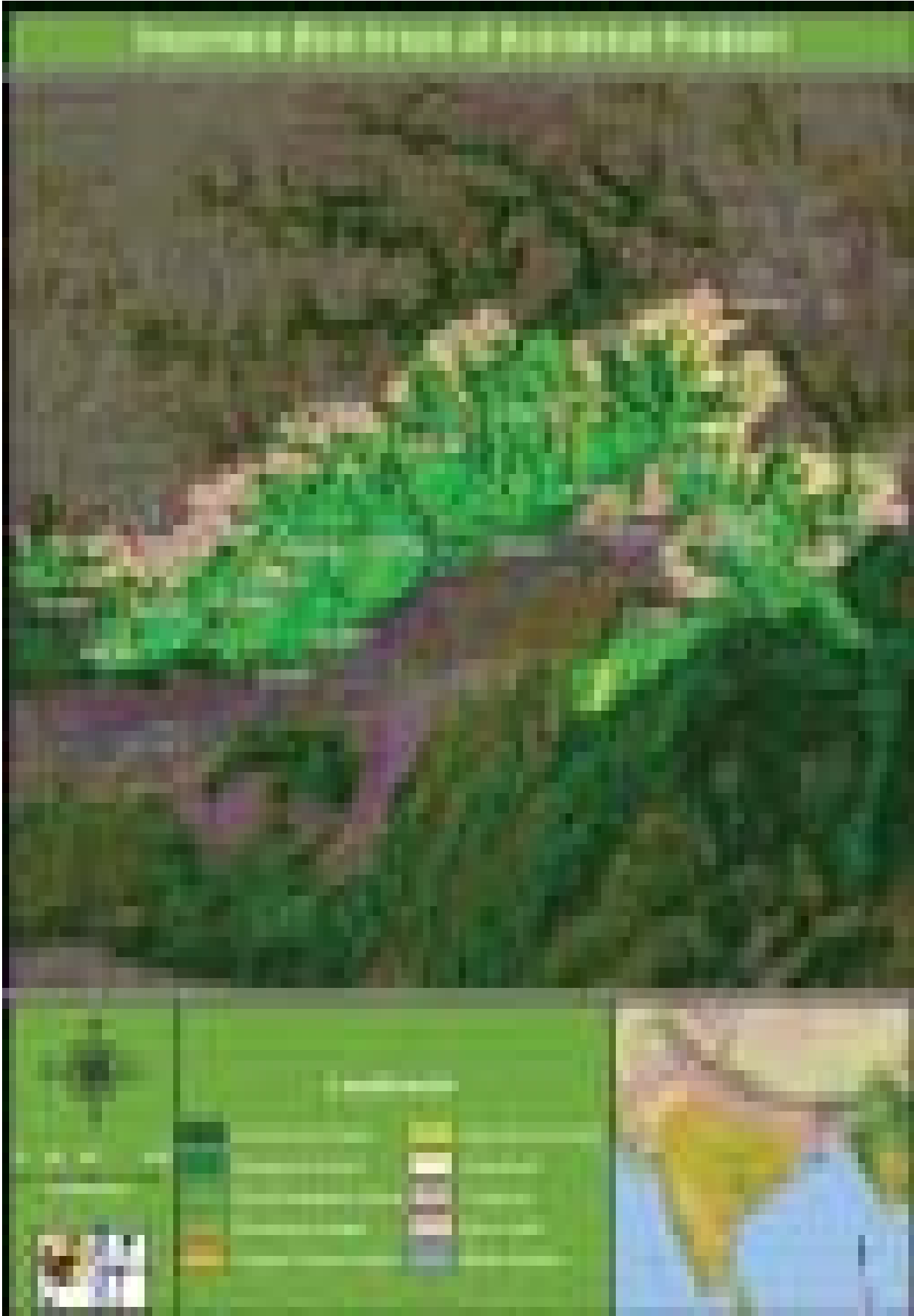
A1= Threatened species; A2 = Restricted Range species; A3= Biome species; A4=Congregatory species

#### AVIFAUNA

Arunachal Pradesh is one of the topmost birding areas in the world. More than 550 species of birds have been identified (Sujan Chatterjee, *pers. comm.* 2003) while Choudhury (2004) listed more than 700 species. It is one of the areas in India where there are chances of discovering new species. For instance, in 1998 a new taxon of monal pheasant (*Lophophorus* sp.) was discovered (Kumar and Singh 1999). It is suspected to be a hitherto undescribed subspecies of Sclater's Monal *Lophophorus sclateri* or an altogether different species. The males of the new monal appeared very similar to the male of Sclater's Monal, except for the completely white tail in the former.

Arunachal Pradesh is still a relatively unexplored state but wherever ornithologists have visited, the bird checklists have been very impressive. For example, a combined list prepared by Anwaruddin Choudhury, Pratap Singh, Aparajita Datta, Kartikeyan, Ramana Athreya and Suresh Kumar, of the East and West Kameng districts totals 430 species. India has 17 out of the total of 51 species of pheasants, and Arunachal Pradesh has 11 species, i.e. 2/3 of India's total pheasants. They are Himalayan or Impeyan Monal *Lophophorus impejanus*, Sclater's Monal *L. sclateri*, Blyth's Tragopan *Tragopan blythii*, Satyr Tragopan *T. satyra*, Temminck's Tragopan *T. temminckii*, Blood Pheasant *Ithaginis cruentus*, Mrs. Hume's Pheasant *Syrnaticus humiae*, Tibetan Eared Pheasant *Crossoptilon harmani*, Grey Peacock Pheasant *Polyplectron bicalcaratum*, Kaleej Pheasant *Lophura leucomelanos* and Red Junglefowl *Gallus gallus*. The West Kameng region is the only area in the world where three species of tragopans are found.

Godwin-Austen (1875, 1876a, b, 1877) was perhaps the first person to publish work on the birds of Arunachal Pradesh (along with Assam and other states of the northeast). Later, Stevens (1914, 1915) published notes on the birds of upper Assam that include some parts of Arunachal Pradesh. Bailey's (1916) notes on the birds of southern Tibet, also contains some portion of Arunachal Pradesh. Baker's papers (1913a, 1913b, 1914) were the most comprehensive and described results of the Abor Expedition and also many new species and subspecies. His work was incorporated in the *Fauna of British India* (1922-1930). Betts (1956) described birds seen in the Subansiri area. Saha (1980, 1985) surveyed Bhutan and Arunachal Pradesh for the Endangered Black-necked Crane *Grus nigricollis* and other species. Ripley *et al.* (1991) did some mist netting and bird collection in the Upper Nao-Dihing. From 1990 onwards, Singh has published many papers and short notes on the bird life of Arunachal Pradesh (1991a, 1991b, 1993, 1994). Choudhury (1990, 1992, 1993, 1994, 1998b, 2001, 2002, 2003b) has studied the birds of the Namdapha National Park and D'Ering Sanctuary, and has extensively surveyed the upper reaches of northwest Arunachal Pradesh. Recently, BirdLife International (2001) has collated information on the threatened birds, including all the threatened species found in Arunachal Pradesh.



IBAs of Arunachal Pradesh

IBA Codes	IBA site name	IBA criteria
IN-AR-01	Chaglagaum-Denning-Walong	A1, A2
IN-AR-02	Chayang Tajo-Khenewa-Bameng	A1, A2
IN-AR-03	D'Ering Memorial Wildlife Sanctuary	A1, A2, A4i
IN-AR-04	Dibang Reserve Forest and adjacent areas	A1, A2
IN-AR-05	Dibang Wildlife Sanctuary	A1, A2
IN-AR-06	Ditchu Reserve Forest	A1, A2
IN-AR-07	Eaglenest and Sessa Sanctuaries	A1, A2
IN-AR-08	Itanagar Wildlife Sanctuary	A1, A2
IN-AR-09	Kane Wildlife Sanctuary	A1, A2
IN-AR-10	Koloriang-Sarli-Damin	A1, A2
IN-AR-11	Magu Thingbu	A1, A2, A3
IN-AR-12	Manabum and Tengapani Reserve Forests	A1
IN-AR-13	Mechuka-Monigong-Jorgging	A1, A2
IN-AR-14	Mehao Wildlife Sanctuary	A1, A2
IN-AR-15	Mouling National Park	A1, A2
IN-AR-16	Nacho-Limeking-Taksing-Majha	A1, A2
IN-AR-17	Nafra-Lada Area	A1, A2
IN-AR-18	Namdapha-Kamlang	A1, A2
IN-AR-19	Namsangmukh-Borduria	A1, A2
IN-AR-20	Pakhui or Pakke Wildlife Sanctuary	A1, A2
IN-AR-21	Papum Reserve Forest	A1
IN-AR-22	Sangti Valley	A1, A2
IN-AR-23	Shergaon, Mandla-Phudung and Kalaktang	A1, A2
IN-AR-24	Taley Valley Wildlife Sanctuary	A1, A2
IN-AR-25	The Chapories of Lohit Reserve	A1, A2
IN-AR-26	Thungri-Chaglang-Poshingla Complex	A1, A2
IN-AR-27	Yardi-Rabe Supse Wildlife Sanctuary	A1
IN-AR-28	Zemithang-Nelya	A1, A2

Threatened species for which Arunachal Pradesh is very important

Arunachal Pradesh is mainly a mountainous state. There are some low-altitude areas where species such as Bengal Florican *Houbaropsis bengalensis*, Swamp Francolin *Francolinus gularis* and White-winged Duck *Cairina scutulata* are found (BirdLife International 2001). Arunachal Pradesh has three Endangered species (White-bellied Heron, Bengal Florican and White-winged Duck) and 24 Vulnerable species. The Vulnerable species include the Black-necked Crane *Grus nigricollis*, Red-breasted Hill Partridge *Arborophila mandellii*, Swamp Francolin, Blyth's Tragopan *Tragopan blythii*, Greater Spotted Eagle *Aquila clanga*,

Rufous-necked Hornbill *Aceros nipalensis*, Rusty-bellied Shortwing *Brachypteryx hyperthra*, Beautiful Nuthatch *Sitta formosa*, Marsh Babbler *Pellorneum palustris*, Tawny-breasted Wren-babbler *Spelaornis longicaudatus*, Austen's Babbler *Stachyris oglei* and Black-breasted Parrotbill *Paradoxornis flavirostris*. There is a single record of the Spot-billed Pelican *Pelecanus philippensis* in the state from the Dibang Valley (Choudhury 2000c).

The State also has at least 15 Near Threatened species including Black-necked Stork *Ephippiorhynchus asiaticus*, Lesser Grey-headed Fish-Eagle *Ichthyophaga humilis*, White-tailed Sea Eagle *Haliaeetus albicilla*, Cinereous Vulture *Aegypius monachus*, Pallid Harrier *Circus macrourus*, White-cheeked Partridge *Arborophila atrogularis*, Ward's Trogon *Harpactes wardi*, Blyth's Kingfisher *Alcedo hercules*, Great Pied Hornbill *Buceros bicornis*, Brown Hornbill *Anorrhinus tickelli*, Yellow-rumped Honeyguide *Indicator xanthonotus*, Long-tailed Prinia *Prinia burnesii*, Wedge-billed Wren-Babbler *Sphenocichla humei*, Rufous-throated Wren-Babbler *Sphenocichla caudatus* and Chestnut-backed Laughingthrush *Garrulax nuchalis*.



The Vulnerable Beautiful Nuthatch *Sitta formosa* is seen in many IBAs of Arunachal Pradesh.

Photo: Ketil Ruudsen / Peter Lobo

List of threatened birds with IBA site codes

Critically Endangered		
Oriental White-backed Vulture	<i>Gyps benghalensis</i>	IN-AR-04, 25
Slender-billed Vulture	<i>Gyps tenuirostris</i>	IN-AR-04, 18, 25
Endangered		
White-bellied Heron	<i>Ardea insignis</i>	IN-AR-12(?), 18, 19
White-winged Duck	<i>Cairina scutulata</i>	IN-AR-03, 04, 08(?), 09(?), 12, 14, 18, 19, 20, 21, 25
Bengal Florican	<i>Houbaropsis bengalensis</i>	IN-AR-03, 04, 25
New Monal taxon	<i>Lophophorus sp.</i>	IN-AR-02, 10
Vulnerable		
Spot-billed Pelican	<i>Pelecanus philippensis</i>	IN-AR-03(?), 04
Lesser Adjutant	<i>Leptoptilos javanicus</i>	IN-AR-03, 04, 25
Pallas's Fish-Eagle	<i>Haliaeetus leucoryphus</i>	IN-AR-03
Greater Spotted Eagle	<i>Aquila clanga</i>	IN-AR-03, 18
Eastern Imperial Eagle	<i>Aquila heliaca</i>	IN-AR-13
Lesser Kestrel	<i>Falco naumanni</i>	IN-AR-03, 08
Swamp Francolin	<i>Francolinus gularis</i>	IN-AR-03, 04, 25
Red-breasted Hill-Partridge	<i>Arborophila mandellii</i>	IN-AR-02, 05, 14(?), 15, 16(?), 17(?), 24(?), 26(?)
Blyth's Tragopan	<i>Tragopan blythii</i>	IN-AR-05, 07, 13, 14, 15, 17, 18, 23, 24(?), 26
Slater's Monal	<i>Lophophorus sclateri</i>	IN-AR-05, 11, 13, 16, 17, 26(?)
Mrs. Hume's Pheasant	<i>Symaticus humiae</i>	IN-AR-18
Black-necked Crane	<i>Grus nigricollis</i>	IN-AR-22, 28
Masked Finfoot	<i>Heliopais personata</i>	IN-AR-12
Wood Snipe	<i>Gallinago nemoricola</i>	IN-AR-01
Indian Skimmer	<i>Rynchops albicollis</i>	IN-AR-03
Purple Wood-Pigeon	<i>Columba punicea</i>	IN-AR-06, 12, 14, 19
Rufous-necked Hornbill	<i>Aceros nipalensis</i>	IN-AR-01, 02, 06, 07, 08, 09, 10, 11(?), 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 23, 24, 27
Rusty-bellied Shortwing	<i>Brachypteryx hyperythra</i>	IN-AR-01, 02, 06, 07, 10, 15, 16(?), 18, 24(?), 26(?)
Marsh Babbler	<i>Pellorneum palustre</i>	IN-AR-04, 07, 20
Mishmi Wren-Babbler	<i>Spelaeornis badeigularis</i>	IN-AR-06, 10, 16, 26, 28
Austen's Babbler	<i>Stachyris oglei</i>	IN-AR-01, 06, 18
Jerdon's Babbler	<i>Chrysomma altirostre</i>	IN-AR-03, 04
Black-breasted Parrotbill	<i>Paradoxornis flavirostris</i>	IN-AR-03, 04
Beautiful Nuthatch	<i>Sitta formosa</i>	IN-AR-01, 02, 05, 06, 07, 11, 13, 15, 16, 17, 18, 19, 24, 28
Near Threatened		
Darter	<i>Anhinga melanogaster</i>	IN-AR-19, 20, 25
Oriental White Ibis	<i>Threskiornis melanocephalus</i>	IN-AR-20
Cinereous Vulture	<i>Aegypius monachus</i>	IN-AR-25
White-cheeked Hill-Partridge	<i>Arborophila atrogularis</i>	IN-AR-01, 18, 19, 20
Satyr Tragopan	<i>Tragopan satyra</i>	IN-AR-07, 28
Tibetan Eared Pheasant	<i>Crossoptilon harmani</i>	IN-AR-06
Ward's Trogon	<i>Harpactes wardi</i>	IN-AR-02, 05, 06, 07, 10, 16(?), 18, 23, 26(?), 28(?)
Great Pied Hornbill	<i>Buceros bicornis</i>	IN-AR-07, 12, 18, 19, 20, 21
Brown Hornbill	<i>Anorrhinus tickelli</i>	IN-AR-12, 18, 19
Yellow-rumped Honeyguide	<i>Indicator xanthonotus</i>	IN-AR-01
Rufous-throated Wren-Babbler	<i>Spelaeornis caudatus</i>	IN-AR-06, 15, 20, 23, 24
Wedge-billed Wren-Babbler	<i>Sphenocichla humei</i>	IN-AR-10, 14, 15, 16, 18, 28

**White-bellied Heron** *Ardea insignis* **Endangered**

This heron qualifies as Endangered because it has a very small, declining population. This decline is projected to increase in the near future as a result of habitat loss and disturbance (BirdLife International 2001). In Arunachal this heron has been recorded in the Namdapha National Park (Choudhury 1996a, Singh 1999).

**White-winged Duck** *Cairina scutulata* **Endangered**

This forest duck qualifies as Endangered because it has a very small, rapidly declining, severely fragmented population as a result of deforestation, wetland drainage and exploitation (BirdLife International 2001). In Arunachal Pradesh, it has been reported from the Mehao Wildlife Sanctuary (Choudhury 1995, 1996b); the Dibang Reserve Forest (Choudhury 1996b); D’Ering Memorial Wildlife Sanctuary (Green 1992, Barman 1996); the Namdapha National Park (Singh 1999, Choudhury 1996a), the Subansiri river, the Arunachal Pradesh-Assam border (Green 1992); Pakke (Pakhui) Wildlife Sanctuary (Choudhury 1995); Namtok, near Assam-Arunachal Pradesh border (Choudhury 1996b).

**Bengal Florican** *Houbaropsis bengalensis* **Endangered**

This bustard has suffered a persistent decline in its population due to rapid reduction in the area of grassland habitat owing to conversion for agriculture and grazing. It therefore qualifies as Endangered (BirdLife International 2001). It has been reported from the Dibang Reserve Forest (Choudhury 1996b, 1998a) and D’Ering Memorial Wildlife Sanctuary, (Narayan 1992, Singh 1994, Choudhury 1996b, Barman 1996).

**Red-breasted Hill or Chestnut-breasted Partridge** *Arborophila mandellii* **Vulnerable**

It is inferred from limited available data that this partridge has a small population which is declining and becoming increasingly fragmented. It is therefore classified as Vulnerable (BirdLife International 2001). This partridge has been reported from the Dibang Valley Wildlife Sanctuary (Kaul *et al.* 1995a); Mouling National Park (Singh 1999); and the Mehao Wildlife Sanctuary (Kaul 1994).

**Blyth’s Tragopan** *Tragopan blythii* **Vulnerable**

This species is classified as Vulnerable because it is sparsely distributed, its small population is declining and becoming increasingly fragmented in the face of continuing forest loss and degradation throughout its restricted range (BirdLife International 2001). It has been reported from the Dibang Wildlife Sanctuary (McGowan and Garson 1995), the Shimong–Singha track, the Upper Siang district (Singh 1999); the Mehao Wildlife Sanctuary, (Choudhury 1996c, Kaul *et al.* 1995a, b), the Patkai hills, at the Eaglenest Wildlife Sanctuary (BirdLife International 2001) and the Sessa Orchid Sanctuary (Choudhury 2000a)

**Sclater’s Monal** *Lophophorus sclateri* **Vulnerable**

This striking pheasant is poorly known across all of its remote, inaccessible and relatively restricted range. It is classified as Vulnerable because it probably has a small population which is naturally fragmented and subject to a significant decline (BirdLife International 2001). It has been reported from the Dibang Wildlife Sanctuary and elsewhere in the Mishmi hills (Katti *et al.* 1990; Kaul *et al.* 1995a), Mechuka in West Siang, (Kaul *et al.* 1995a); Taksing in Upper Subansiri; Damin and Sarli in Lower Subansiri and from Tawang (Kumar and Singh 1998, 1999).

**Rufous-necked Hornbill** *Aceros nipalensis* **Vulnerable**

Assam, Meghalaya (no recent report), Manipur, Mizoram, Nagaland and possibly Sikkim (BirdLife International 2001). In Arunachal Pradesh, it has been reported from the Siang valley (Katti *et al.* 1990, 1992); the Mehao Wildlife Sanctuary (Singh 1994); Parashuram Kund (Singh 1999); the Kamlang Wildlife Sanctuary (Singh 1994, Katti *et al.* 1990, 1992, Singh 1999); the Namdapha National Park (Alström *et al.* 1994, Singh 1999), the Sessa Orchid Sanctuary (Singh 1994, Singh 1999, Choudhury 2000a); and from the Eaglenest Wildlife Sanctuary (Singh 1994, Singh 1999, Choudhury 2003b).

**Rusty-bellied Shortwing** *Brachypteryx hyperythra* **Vulnerable**

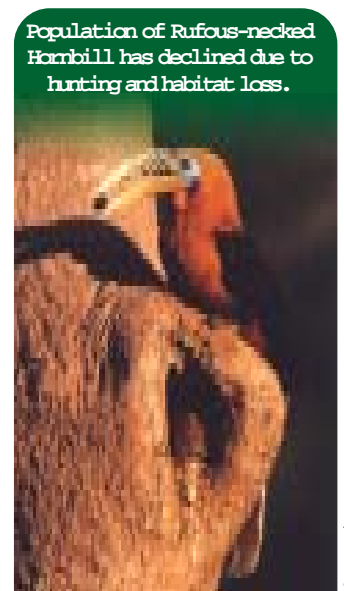
This species has a small, declining population which qualifies it as Vulnerable. Its decline is thought to be the result of forest clearance and degradation (BirdLife International 2001). This Shortwing is endemic to the Eastern Himalayan Endemic Bird Areas, found especially in the Mehao WLS (Katti *et al.* 1992), Dibang Wildlife Sanctuary, (Kaul *et al.* 1995b); the Kamlang Wildlife Sanctuary (Kaul *et al.* 1995b); the Namdapha National Park (Athreya 1996, Athreya *et al.* 1997), Tirap (BirdLife International 2001); and the Eaglenest Wildlife Sanctuary (Choudhury 2000a).

**Beautiful Nuthatch** *Sitta formosa* **Vulnerable**

This nuthatch has a small, declining, severely fragmented population as a result of the loss, degradation and fragmentation of the Evergreen and Semi-evergreen Forest. It therefore qualifies as Vulnerable (BirdLife International 2001). In Arunachal Pradesh, it has been reported from the Kamlang Wildlife Sanctuary (Singh 1999); the Namdapha National Park (Singh 1994, Alström *et al.* 1994); the Sessa Orchid Sanctuary (Singh 1994, Athreya and Karthikeyan 1995); Sesni (Singh 1994) and Mechuka (A. U. Choudhury *pers. comm.* 2003)

**Restricted Range Species**

In Arunachal Pradesh, two Endemic Bird Areas are found (a) Eastern Himalayas EBA 130, (b) Assam Plains EBA 131. The key habitats of the Eastern Himalayas are Subtropical Hill Forests, Temperate Forests and Sub-Alpine Forests, while the Assam Plains have Wet Grasslands, Reedbeds and Scrub. Stattersfield *et al.* (1998) have listed 21 Restricted Range species in EBA 130, out of which 18 species are found in Arunachal Pradesh. They are Ward’s Trogon, Red-breasted Hill Partridge, Blyth’s Tragopan, Sclater’s Monal, Beautiful Sibia *Heterophasia pulchella*, Grey Sibia *H. gracilis*, White-naped Yuhina *Yuhina bakeri*, Brown-throated Tit-Babbler *Alcippe ludlowi*, Hoary-throated Barwing *Actinodura nipalensis*, Austen’s or Streaked-throated Barwing *A. waldeni*, Striped Laughingthrush *Garrulax virgatus*, Brown-capped Laughingthrush *G. austeni*, Black-browed Leaf-Warbler *Phylloscopus cantator*, Broad-billed Flycatcher-warbler *Tickellia hodgsoni*, Wedge-billed Wren-Babbler *Sphenocichla humei* and Austen’s Babbler *Stachyris oglei*. In EBA 131, we have the Black-breasted Parrotbill *Paradoxornis flavirostris* and Marsh Babbler *Pellorneum palustre* in Arunachal Pradesh. Thus, Arunachal Pradesh is one of the states in the northeast with the largest number of Restricted Range species.



Population of Rufous-necked Hornbill has declined due to hunting and habitat loss.

Photo: Tim Laman

## Important Bird Areas in India – Arunachal Pradesh

IN-AR

Endemic Bird Area 130: Eastern Himalayas		
Red-breasted Hill-Partridge	<i>Arborophila mandellii</i>	IN-AR-02, 05, 13 (?), 14 (?), 15, 16(?), 17(?), 24(?), 26(?)
Blyth's Tragopan	<i>Tragopan blythii</i>	IN-AR-05, 07, 13, 14, 15, 17, 18, 22, 23, 24(?), 26
Sclater's Monal	<i>Lophophorus sclateri</i>	IN-AR-05, 11, 13, 16, 17, 26(?)
Ward's Trogon	<i>Harpactes wardi</i>	IN-AR-02(?), 05, 07, 10, 16(?), 18, 23, 26(?), 28(?)
Rusty-bellied Shortwing	<i>Brachypteryx hyperythra</i>	IN-AR-01, 02, 06, 07, 10, 15, 16(?), 18, 23, 24(?), 26(?)
Striped Laughingthrush	<i>Garrulax virgatus</i>	IN-AR-11
Rufous-throated Wren-Babbler	<i>Spelaornis caudatus</i>	IN-AR-06, 15, 20, 23, 24
Mishmi Wren-Babbler	<i>Spelaornis badeigularis</i>	IN-AR-06, 10, 16, 26, 28
Wedge-billed Wren-Babbler	<i>Sphenocichla humei</i>	IN-AR-10, 14, 15, 16, 18, 28
Austen's Babbler	<i>Stachyris oglei</i>	IN-AR-01, 06, 18, 19
Hoary-throated Barwing	<i>Actinodura nipalensis</i>	IN-AR-07, 17(?), 20, 23, 28
Austen's Barwing	<i>Actinodura waldeni</i>	IN-AR-07, 13, 14(?), 16(?), 18, 23, 24
Brown-throated Tit-Babbler	<i>Alcippe ludlowi</i>	IN-AR-02, 06, 10, 11, 14, 16, 18, 24, 28
Grey Sibia	<i>Heterophasia gracilis</i>	IN-AR-18
Beautiful Sibia	<i>Heterophasia pulchella</i>	IN-AR-02, 05, 06, 07, 10, 13, 14, 15, 16, 17, 18, 23, 24, 26
White-naped Yuhina	<i>Yuhina bakeri</i>	IN-AR-06, 07, 10, 14, 15, 16, 17, 18, 20, 23, 28
Black-browed Leaf-Warbler	<i>Phylloscopus cantator</i>	IN-AR-10, 14, 15, 16, 17, 18, 19, 20, 23, 24
Broad-billed Flycatcher-Warbler	<i>Tickellia hodgsoni</i>	IN-AR-02 (?), 07, 09(?), 10, 14, 15, 16, 17 (?), 18, 20, 23, 24, 26 (?), 28
Endemic Bird Area 131: Assam Plains		
Marsh Babbler	<i>Pellorneum palustre</i>	IN-AR-04, 07, 20
Black-breasted Parrotbill	<i>Paradoxornis flavirostris</i>	IN-AR-03, 04

### Biomes

Owing to great altitudinal variation, from less than 100 m to above 5,000 m in Arunachal Pradesh, five biomes are found in the state. Above 3,600 m lies Biome-5 (Eurasian High Montane-Alpine and Tibetan), with key habitats of Alpine and Sub-Alpine scrub and Grassland, cliffs and rocky slopes, scree and boulders and high-altitude lakes. This biome is found in the Lohit, East Kameng, West Kameng, Upper Dibang and Tawang districts bordering Tibet (China). BirdLife International (undated) has listed 48 bird species, out of which 20 have been found in Arunachal Pradesh till now. Between 1,800 and 3,600 m, the Sino-Himalayan Temperate Forest or Biome-7 is found. The key habitats are Broadleaf Evergreen Forest, Broadleaf Deciduous, Mixed Broadleaf-Coniferous and Coniferous Forest and Montane Grassland. A very large number of IBAs fall in this biome. BirdLife International (undated) has listed 112 species, out of which 64 have been found till now. Next is Biome-8 (Sino-Himalayan Subtropical Forest) below 1,800 m but above 1,000 m. Most parts of Arunachal are covered by this biome and the previous one. However, the number of bird species that represent this biome is less, about 95. Based on the available literature, 57 species of this biome have been reported till now. This biome has Lower Montane Rain Forest, Hill Evergreen Forest and Pine Forest as key habitats. The fourth is Biome-9 (Indo-Chinese Tropical Moist Forest), with Lowland Evergreen Rain Forest, Semi-Evergreen Rain Forest and Moist Deciduous Forest. Only 19 species are considered as representative of this biome type, out of which nine have been reported from Arunachal Pradesh. As this biome has thick forests with dense under-storey and vegetation, perhaps more species are found here than known till now. Some areas of this hilly state are almost flat, forming part of the Brahmaputra river flood plains, especially bordering Assam. In this area, we find a biome called the Indo-Gangetic Plains (Biome-12). Two IBAs come under this biome: D'Ering Memorial Wildlife Sanctuary and the Dibang Reserve Forest. Thirteen bird species are considered representative of this biome, out of which at least five have been found here, including threatened ones such as the Bengal Florican *Houbaropsis bengalensis*, Swamp Francolin *Francolinus gularis* and Jerdon's Babbler *Chrysomma altirostre*.

### THREATS AND CONSERVATION ISSUES

Arunachal Pradesh also has many conservation issues but they are comparatively lesser than the other states of northeastern India, because many areas here are still not easily accessible. The key threats to IBAs are as follows:

**Illegal felling:** The illegal felling of trees is mainly because of the growing human population and also logging. Forests are cleared to make more space for agricultural purposes, this is particularly affecting lowland forests, and is even taking place within some protected areas. The illegal felling provides quick-money and is a major source of livelihood. At places, the economy is mostly based on timber. The habitats of many of the bird species are getting reduced because of this problem.

**Firewood collection:** Many of the forested areas are under local pressure. People collect firewood regularly, especially in winter for heating and fuel, which causes great disturbance to many bird species.

Extensive logging had taken place in Arunachal Pradesh before the Supreme Court of India stopped it.



Photo: Asad R. Rahmani



Threats to IBAs

A=Agriculture intensification/expansion; B=Dams/Dykes; C=Disturbance to Birds; D=Firewood Collection;  
E=Industrialisation/Urbanisation; F=Unsustainable exploitation; G=Others; H=Natural Events

**Conversion of natural habitat to agriculture:** One of the main threats is the continuing conversion of natural grassland and wetlands for agricultural and urban land use, together with agricultural intensification and industrialization (Stattersfield et al. 1998).

**Jhum or Shifting Cultivation:** Unsustainable shifting cultivation in the State. *Jhum* could be sustainable if people practiced it on a small scale using clearing cycles of 15-20 years, but in many areas increased population pressure has led to a rapid reduction in this cycle.

**Encroachment:** There has been extensive encroachment into many IBA sites, including some protected sites by the local population.

**Poaching:** Poaching is one of the major problems here as well as in the other northeastern states of India. Most of the poaching is done by snaring and guns.

**Dam building:** The mega dams proposed on the Rivers Siang, Dibang, Lohit, Subansiri, etc., are going to be major threats in the near future. Besides submerging large forested areas, the resultant influx of labourers and other developmental activities will have a major impact on the birds as well as on the biodiversity as a whole.

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AR-01

## CHAGLAGAUM-DENNING-WALONG



IBA Site Code	: IN-AR-01
State	: Arunachal Pradesh
District	: Lohit
Coordinates	: 27° 50' 00" N, 96° 50' 00" E
Ownership	: Private and Government
Area	: 2,00,000 ha
Altitude	: >1,000-5,000 m
Rainfall	: > 2,000 mm
Temperature	: 0 °C to 25 °C
Biogeographic Zone	: Himalaya
Habitats	: Montane Wet Temperate Forest, Sub-Alpine Dry Scrub, Alpine Dry Pasture

**IBA CRITERIA :** A1 (Threatened Species), A2 (Endemic Bird Area 130: Eastern Himalayas)

**PROTECTION STATUS:** Not officially protected

### GENERAL DESCRIPTION

Chaglagaum-Denning-Walong is a large wilderness in the Lohit district of Arunachal Pradesh, along the border with China (Tibet). Chaglagaum is a proposed reserve forest, while Denning is reserve forest in the west of Chaglagaum. The River Lohit forms the eastern and southern boundary of this IBA. The northern mountain ranges along the China border remain snow-covered for the greater part of the year. Two villages, Goiliang and Chaglagaum, are within the Chaglagaum proposed reserve forest. The Goiliang village lies in the southeast part of the area while Chaglagaum is in the north. The Lohit, Dallai, Daf and Tiding are the main rivers. Other important rivers and streams are Haramachi, Kuronmachi, Daren, Kajop, Kazomiyu, Ami, Telua, Tasit, Chengai and Katso.

The vegetation is of Subtropical Broadleaf and Conifers up to middle elevation, above which occurs Temperate Forest of Broadleaf and Pine and other mixed conifers, especially in the north. Further up occurs Alpine and Sub-Alpine Scrub.

### AVIFAUNA

A total of 259 bird species are reported from this area, of which 159 are Biome-restricted species (Hazarika 2003). This site falls in the Eastern Himalayas Endemic Bird Areas and covers three biomes due to its altitudinal variations. In Biome-5 (Eurasian High Montane- Tibetan and Alpine) 13 out of 48 Biome-restricted species have been found till now. Seventy out of 112 Biome-7 (Sino-Himalayan Temperate Forest) species were recorded, which proves that good Sino-Himalayan Temperate Forest is still surviving in this IBA. Similarly, the site has extensive tracts of Sino-Himalayan Subtropical Forest (Biome-8). BirdLife International (undated) has identified 95 species in this biome, out of which 64 species were recorded by Hazarika (2003).

Hazarika (2003) has reported Himalayan or Impeyan Monal *Lophophorus impejanus* from this site, and the adjoining Dichu Reserve Forest (another IBA). He had two sightings near Taramko East, in the upper part of Chaglagaum. One sighting was of three individuals and another of two birds. Several confirmed reports from higher reaches were given to him. This is a large, conspicuous pheasant, more often seen in the Western Himalayas. According to Ali and Ripley (1987), this pheasant is replaced in the Eastern Himalayas by Sclater's Monal *Lophophorus sclateri*. However, Singh (1994) has also noted it from from east Arunachal. This

proves that it has a much wider distribution than known earlier.

One of the most important sightings in this IBA is of the Wood Snipe *Gallinago nemoricola*, a Vulnerable species (BirdLife International 2001). Two birds were seen on Ganing river and a single bird in Kajop river area. Singh (1994) has recorded this species on the tract between Migging-Pango-Nugguing-Tuting and Keegut.

The Rufous-necked Hornbill *Aceros nipalensis* and Beautiful Nuthatch *Sitta formosa* are also globally threatened species (BirdLife International 2001). Both depend upon dense broadleaf forest, which is under threat all over northeast India. A single Rufous-necked Hornbill was observed at Denning RF, north of Lohitpur (just outside Chaglagaum). A flock of eleven Beautiful Nuthatch was observed upstream of Tiding river on the slope of the riverbank, in the southwest part of Chaglagaum (Hazarika 2003).

Vulnerable	
Wood Snipe	<i>Gallinago nemoricola</i>
Rufous-necked Hornbill	<i>Aceros nipalensis</i>
Rusty-bellied Shortwing	<i>Brachypteryx hyperythra</i>
Austen's Babbler	<i>Stachyris oglei</i>
Beautiful Nuthatch	<i>Sitta formosa</i>
Near Threatened	
White-cheeked Hill-Partridge	<i>Arborophila atrogularis</i>
Yellow-rumped Honeyguide	<i>Indicator xanthonotus</i>
Endemic Bird Area 130: Eastern Himalayas	
Rusty-bellied Shortwing	<i>Brachypteryx hyperythra</i>
Austen's Babbler	<i>Stachyris oglei</i>

### OTHER KEY FAUNA

Due to its inaccessibility, the forest is well preserved and is a true representation of climax vegetation. This is the abode of temperate animals such as Red Panda *Ailurus fulgens*, Asiatic Black Bear *Ursus thibetanus*, Goral *Nemorhaedus goral*, Serow *N. sumatraensis*, Musk Deer *Moschus chrysogaster* and Takin *Budorcas taxicolor*. Other important species recorded are Barking Deer *Muntiacus muntjak* and Leopard *Panthera pardus*. Snow Leopard *Uncia uncia* is reported above 3,000 m (Haridasan *et al.* 1999). However it is not confirmed.

#### LAND USE

- q Forestry
- q Agriculture



#### THREATS AND CONSERVATION ISSUES

- q Road construction
- q Clearing areas for settlements and farming
- q Poaching

Hunting by local Mishmi and Tibetan tribes in this IBA is a serious threat to the bird life. Hunting occurs mostly with single barrel shotguns and muzzle-loaders. Organized hunting occurs during winter when parties of hunters move over different parts of the forest in search of larger birds and mammals (Hazarika 2003). Hunting by army personnel for so-called trophies, common in other parts of Arunachal Pradesh, is fortunately low in this area, thanks to the absence of motorable roads in most parts. However, many roads are planned in future which would change the situation. There is an opportunity to conduct environmental education programmes with the Army to sensitize them about India's wildlife protection laws.

In the lower reaches, slash-and-burn (*jhum*) cultivation is a serious problem. Generally, maize and opium are cultivated.

Construction work on two major road projects, Hayuliang to Chaglaguam and Hayuliang to Goliang, is going on at a rapid pace and has brought about serious damage to the habitat (Hazarika 2003).

#### KEY CONTRIBUTOR

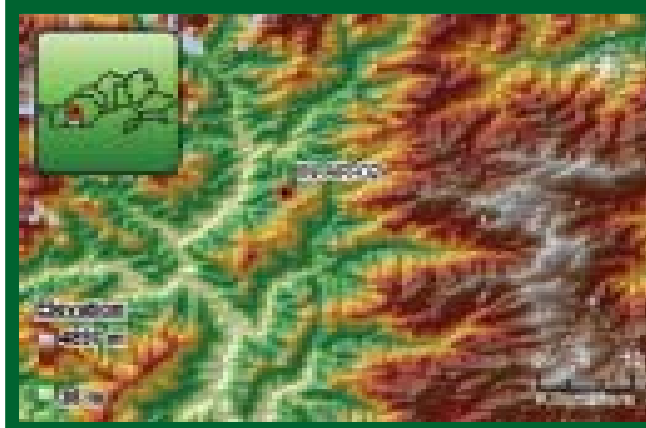
Asif Hazarika

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AR-02

## CHAYANG TAJO-KHENEWA- BAMENG



IBA Site Code	: IN-AR-02
State	: Arunachal Pradesh
District	: East Kameng
Coordinates	: 27° 36' 19" N, 93° 04' 36"E
Ownership	: Community, private
Area	: c. 2,00,000 ha
Altitude	: 1,000 - 5,000 m
Rainfall	: 1,500 - 3,000 mm
Temperature	: 0 °C to 30 °C
Biogeographic Zone	: Himalaya
Habitats	: Tropical Wet Evergreen Forest, Tropical Semi-evergreen Forest, Sub-tropical Broadleaf Hill Forest, Sub-alpine Dry Scrub, Alpine Moist Scrub

IBA CRITERIA: A1 (Threatened Species), A2 (Endemic Bird Area 130: Eastern Himalayas)

PROTECTION STATUS: Not officially protected

### GENERAL DESCRIPTION

Chayang Tajo-Khenewa-Bameng, a high mountain region of about 2,000 sq. km in the Eastern Himalayas, in East Kameng district is one of the least known IBAs of Arunachal Pradesh. The less accessible areas still have excellent forest cover. The area is drained by the Kameng river and its tributaries. Owing to its altitudinal variation from 1,000 to 5,000 m, it has faunal and floral elements of the lower, middle and upper Himalayas. In the lower reaches, Tropical to Subtropical Evergreen Forests occur. Further up, Temperate Broadleaf and Coniferous Forests are seen and then the Subalpine and Alpine Forest. The high peaks remain snowcapped for the greater part of the year. There are a few high-altitude lakes. The northern boundary is close to Indo-China border (Tibet).

The top canopy trees of Tropical Wet Evergreen and Semi-evergreen are *Tetrameles nudiflora* (important for nesting of hornbills), *Terminalia myriocarpa*, *Amoora wallichii* and *Sterculia villosa*.

Abandoned *jhums* (shifting cultivation) are covered with various species of grass such as *Themeda villosa*, *Saccharum* sp. and *Imperata* sp.

Snow capped peaks of the Great Himalayas as seen from Chayang Tajo, one of the least explored tracts in Arunachal Pradesh

Photo: Anwaruddin Choudhury



### AVIFAUNA

There may be more than 300 bird species in this IBA. A recent survey in a few select areas revealed the presence of more than 100 species, of which at least 74 were identified (Choudhury 2002).

The area includes three biomes, Sino-Himalayan Subtropical Forest and Sino-Himalayan Temperate Forest, with some high elevation areas forming part of Eurasian High Montane (Alpine and Tibetan), i.e., the biomes 5, 7 and 8. However information on the avifauna is limited.

Choudhury (2002) has reported three species of pheasants: Temminck's Tragopan *Tragopan temminckii*, Black-breasted Kaleej *Lophura leucomelanos lathami* and Grey Peacock Pheasant *Polyplectron bicalcaratum*. None of them are globally threatened. The Rufous-throated Hill-Partridge *Arborophila rufogularis* is also found. The Red-breasted Hill or Chestnut-breasted Partridge *Arborophila mandellii*, a globally threatened species, may also occur.

Endangered	
New Monal taxon	<i>Lophophorus</i> sp.
Vulnerable	
Red-breasted Hill-Partridge	<i>Arborophila mandellii</i>
Rufous-necked Hornbill	<i>Aceros nipalensis</i>
Rusty-bellied Shortwing	<i>Brachypteryx hyperythra</i>
Beautiful Nuthatch	<i>Sitta formosa</i>
Near Threatened	
Ward's Trogon	<i>Harpactes wardi</i>
Endemic Bird Area 130: Eastern Himalayas	
Red-breasted Hill-Partridge	<i>Arborophila mandellii</i>
Ward's Trogon	<i>Harpactes wardi</i>
Rusty-bellied Shortwing	<i>Brachypteryx hyperythra</i>
Brown-Throated Tit-Babbler	<i>Alcippe ludlowi</i>
Beautiful Sibia	<i>Heterophasia pulchella</i>
Broad-billed Flycatcher-Warbler(?)	<i>Tickellia hodgsoni</i>

One of the most interesting features of this site (and other IBAs in West Kameng, Lower Subansiri) is the discovery of a new pheasant of genus *Lophophorus* (Monal) by Kumar and Singh (1999). It is suspected to be a hitherto undescribed subspecies of Sclater's

Monal *Lophophorus sclateri* or an altogether different species. The males of the new monal appeared very similar to the male of Sclater's Monal, except for the completely white tail in the former.

There are confirmed records of globally threatened Rufous-necked Hornbill *Aceros nipalensis* and Restricted Range Beautiful Sibia *Heterophasia pulchella*. The site lies in Eastern Himalayas Endemic Bird Area (EBA). Presently, only one Restricted Range species has been confirmed from this site, but according to A. U. Choudhury (*pers. comm.* 2003), there would be many more.

We have selected this site as an IBA based on its excellent forest cover and for having species from three biomes: Eurasian High Montane (Tibetan and Alpine), Sino-Himalayan Temperate Forest, and Sino-Himalayan Subtropical Forest.

#### OTHER KEY FAUNA

Chayang Tajo-Khenewa-Bameng is difficult to reach, so the large mammal community is still intact in many valleys and forested hills. At lower reaches, Temminck's Golden Cat *Catopuma temmincki*, Clouded Leopard *Neofelis nebulosa* and Tiger *Panthera tigris* are found, while Leopard *Panthera pardus* has a much wider distribution. In the temperate forest, Red Panda *Ailurus fulgens* is found, while Musk Deer *Moschus chrysogaster* is found in subalpine and alpine regions. Other mountain ungulates are Takin *Budorcas taxicolor*, Goral *Nemorhaedus goral* and Serow *Nemorhaedus sumatraensis*. Chief forest ungulates are Sambar Cervus *unicolor*, Barking Deer *Muntiacus muntjak* and Wild Boar *Sus scrofa* (Choudhury 2002).

#### LAND USE

- ☐ Agriculture, both *jhum* and sedentary
- ☐ Horticulture
- ☐ Forestry.

#### THREATS AND CONSERVATION ISSUES

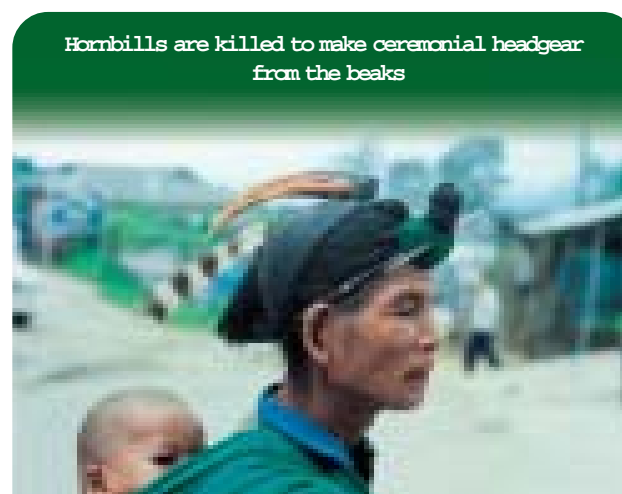
- ☐ Timber operations.
- ☐ *Jhum* cultivation.
- ☐ Poaching

There is no officially designated protected area (sanctuary or national park) in this vast tract of the Eastern Himalayas. Large-scale tree felling in the past has already denuded large parts of East Kameng. Between Seppa and Chayang Tajo, there is hardly any primary forest left (Choudhury 2002). *Jhum* cultivation has also contributed to the loss of tree cover over large areas on both sides of the Kameng river. Large stretches of forest, however, are still seen in the higher reaches beyond Chayang Tajo and Bameng. This is because these areas are still inaccessible by road, and *jhum* is also difficult due to the cold climate. However, intensive shifting cultivation was seen near the Seppa area, the district headquarters.

Around Chayang Tajo circle, apart from clearing forests for cultivating rice, the tribals also clear forests to plant palm trees

(*Arenga* spp.) locally known as 'Thasae' from which they extract a powdery mass (Kumar and Singh 1999). This, along with bamboo shoots collected in the forest, forms the staple diet of the local people for most part of the year. These plantations are maintained mainly along water courses.

Poaching is still a major conservation issue as the Bangnis, the main tribe of the area, are well known hunters. In fact, they eat flesh of almost all species of mammals and birds. Sulungs and Mijis inhabit extreme north and west, respectively. Both these tribes also hunt almost all species for food or for cultural reasons. For instance, hornbills are killed to make ceremonial headgear from the beaks.



As this site is Data Deficient but presumably very rich in flora and fauna, detailed surveys should be conducted. The higher areas, from above Bameng to the mountain ridge northwest of Chayang Tajo, should be brought under some sort of protection in view of the rich biodiversity and low human population (Choudhury 2002). This area has pheasants, Rufous-necked Hornbill and many Restricted Range species. Among mammals, Takin, Golden Cat, Clouded Leopard and Red Panda are found in almost virgin forests.

There is not much conservation awareness in this area. For example, even the local government emporium sells skins of Capped Langur *Trachypitecus pileata*. The skin is mainly used to cover handles of cutting tools, known as *dao*. Incidentally, the Capped Langur is included in Schedule I of the Indian Wildlife (Protection) Act.

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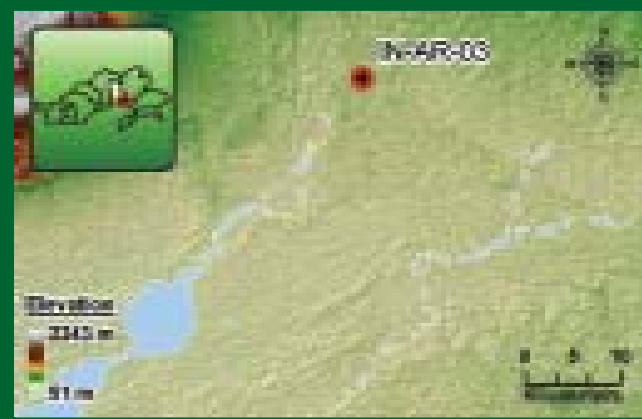
Suresh Kumar and Anwaruddin Choudhury.

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AR-03

## D'ERING MEMORIAL WILDLIFE SANCTUARY



<b>IBA Site Code</b>	: IN-AR-03
<b>State</b>	: Arunachal Pradesh
<b>District</b>	: East Siang
<b>Coordinates</b>	: 27° 56' 16" N, 95° 26' 45" E
<b>Ownership</b>	: State
<b>Area</b>	: 19,000 ha
<b>Altitude</b>	: 100 -150 m
<b>Rainfall</b>	: >2,000 mm
<b>Temperature</b>	: 7 °C to 36 °C
<b>Biogeographic Zone</b>	: North-east
<b>Habitats</b>	: Riverine Vegetation, Tropical Grassland, Tropical Semi- evergreen Forest

**IBA CRITERIA:** A1 (Threatened), A2 (Endemic Bird Area 131: Assam Plains), A4i (1% biogeographical population)

**PROTECTION STATUS:** Wildlife Sanctuary, established in August 1978

### GENERAL DESCRIPTION

D'ering Memorial Wildlife Sanctuary lies on the border area of Assam and Arunachal Pradesh in the flood plain between the Rivers Siang and Sibya. It is located c. 16 km southeast of Pashighat town. About 80% of the Sanctuary is covered with grassland, and the rest is riverine forest patches with mixed bamboo and secondary forests. Streams and channels intersect the whole Sanctuary. There are small to medium waterbodies in the Sanctuary that provide good nesting sites for birds. The area is generally rich in grassland birds.

Divided into three managerial ranges, Anchalghat, Sibiamukh and Barghuli, the Sanctuary has Semi-evergreen Forests, fast flowing river channels and river islands, marshes and extensive grasslands (Barman 1996). The main grass species are *Saccharum spontaneum*, *S. arundinaceum*, *Neyraudia reynaudiana* and sedges such as *Cyperus* sp., *Terminalia myriocarpa*, *Dillenia indica*, *Bombax ceiba*, *Lagerstroemia speciosa* and *Albizia* are the common trees (Barman 1996).

### AVIFAUNA

More than 150 species of birds have been recorded, with several migratory species (B. B. Bhatt *pers. comm.* 2002), while Barman (1996) has seen 113 species. This IBA is one of the most important grassland habitats of the Bengal Florican *Houbaropsis bengalensis*. While Rahmani *et al.* (1990) estimated a population of 20 birds, Choudhury (2002b) estimated 18-20 floricans. Near Bomjir, in Dibang RF, which adjoins D'ering, three floricans, one male and two females, were observed near a buffalo camp on March 8, 1993 and a study carried out in this complex revealed an estimated population of 36-45 Bengal floricans in the area (Choudhury 1996). The estimated population in the area was 18-22 in Dibang Reserve Forest, and 18-22 in D'ering Wildlife Sanctuary. However, due to rampant poaching, the population has declined to about 20-25 birds (G. Narayan *in litt.* 2003).

The White-winged Duck *Cairina scutulata* is found in small numbers. Accurate estimates of the population are difficult (Choudhury 2002a).

Jerdon's Babbler *Chrysomma altirostre* is a globally threatened species confined to the tall, wet grasslands of the *terai* and the

Brahmaputra floodplains. This IBA is an important site as the extreme northeastern range of the Jerdon's Babbler. Ali and Ripley (1987) have called this subspecies Hume's Babbler.

Owing to the presence of extensive wet grasslands in this IBA, the population of the Swamp Francolin *Francolinus gularis* is quite good (Singh 1995).

Numerous channels formed by the River Siang constitute the main waterfowl habitat. These wetlands attract thousands of waterfowl, mostly ducks. Barman (1996) has listed 14 species of Anatidae. However, due to the swampy nature of the habitat, movement is extremely restricted, so a correct estimation of numbers is extremely difficult. Possibly, more than 20,000 waterfowl visit these wetlands and channels in a year.

Endangered	
White-winged Duck	<i>Cairina scutulata</i>
Bengal Florican	<i>Houbaropsis bengalensis</i>
Vulnerable	
Spot-billed Pelican (?)	<i>Pelecanus philippensis</i>
Lesser Adjutant	<i>Leptoptilos javanicus</i>
Pallas's Fish-Eagle	<i>Haliaeetus leucoryphus</i>
Greater Spotted Eagle	<i>Aquila clanga</i>
Lesser Kestrel	<i>Falco naumanni</i>
Swamp Francolin	<i>Francolinus gularis</i>
Indian Skimmer	<i>Rynchops albicollis</i>
Jerdon's Babbler	<i>Chrysomma altirostre</i>
Black-breasted Parrotbill	<i>Paradoxornis flavirostris</i>
Endemic Bird Area 131: Assam Plains	
Black-breasted Parrotbill	<i>Paradoxornis flavirostris</i>

### OTHER KEY FAUNA

This IBA serves as a corridor for migration of the Asian Elephant *Elephas maximus*. Tiger *Panthera tigris* is the major carnivore. Wild Boar *Sus scrofa*, Hog deer *Axis porcinus* and Barking deer or Muntjak *Muntiacus muntjak* are found here.

### LAND USE

q Nature reserve

D'Ering Memorial Wildlife Sanctuary is an important staging ground for migratory waterfowl



Photo: Anwaruddin Choudhury

#### THREATS AND CONSERVATION ISSUES

- ☐ Hunting
- ☐ Inadequate staff
- ☐ Cattle grazing
- ☐ Fishing

The Sanctuary was devastated by a flash flood in August 2000 due to a burst dam in Tibet. Most of the grassland was covered by sand immediately after the flood and has not yet recovered. On top of this, rampant hunting and cattle grazing are further destroying the habitat. Collection of thatching material may not be very detrimental if regulated. Tree felling is quite common in some parts like Barghuli, Japang and Balun. Poaching is so common that the site does not look like a protected area at all! During the dry season, gangs of poachers set fire to the grassland from one side, and wait for the helpless animals to come out of the burning grassland to be shot or snared. Searchlight fitted vehicles are used at night to hunt and shoot animals. This Sanctuary urgently needs support in the form of infrastructure and facilities to forest staff and a good officer committed to rehabilitate the ravaged sanctuary.

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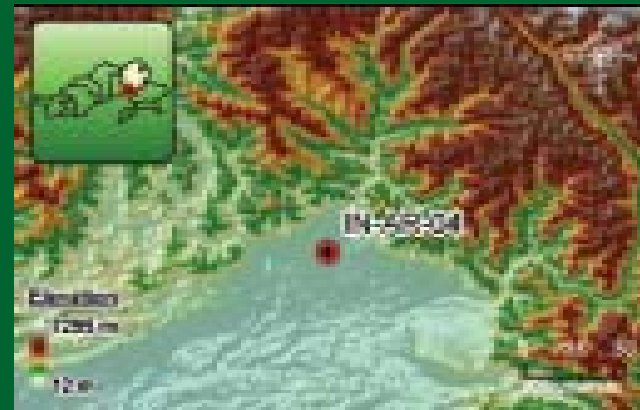
Anwaruddin Choudhury, Gautam Narayan and Kulojyoti Lakhar

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AR-04

## DIBANG RESERVE FOREST AND ADJACENT AREAS



IBA Site Code	: IN-AR-04
State	: Arunachal Pradesh
District	: Dibang Valley
Coordinates	: 28° 06' 00" N, 95° 37' 30" E
Ownership	: State and Community
Area	: 30,000 ha
Altitude	: 100- 400 m
Rainfall	: 3,500 - 10,000 mm
Temperature	: 6 °C to 32 °C
Biogeographic Zone	: North-east
Habitats	: Tropical Wet Evergreen Forest, Tropical Grassland

IBA CRITERIA: A1 (Threatened Species) , A2 (Endemic Bird Area 131: Assam Plains)

PROTECTION STATUS: Not officially protected

### GENERAL DESCRIPTION

This IBA is often confused with Dibang Wildlife Sanctuary, also an IBA because of the similarity in the first name. While the Sanctuary covers higher mountainous areas of the Mishmi Hills along the India-China international border, this IBA is in flat and gently sloping terrain, in the lower reaches of the Dibang river up to the Assam-Arunachal Pradesh interstate border. The present IBA includes parts of Dibang Reserve Forest (RF), Kerim RF and the whole of Sirkee proposed RF as mapped in Choudhury (1996). It also includes the entire riverbed of the Dibang, at places up to 8 km wide with sandy and grassy tracts. This IBA forms part of Assam Plains Endemic Bird Areas (Stattersfield *et al.* 1998), which is noteworthy.

Tall wet savanna grassland occurs on the islets of the Dibang river, while the forest away from the river is mostly Tropical Wet Evergreen. The main forested areas are between Dambuk-Bomjir and Bijari.

### AVIFAUNA

At least 150 bird species have been listed, but the total diversity may be more than 300 species (A. U. Choudhury *pers. comm.* 2003). This IBA is known for its rich assemblage of threatened birds including the Lesser Adjutant *Leptoptilos javanicus*, Swamp Francolin *Francolinus gularis*, Black-breasted Parrotbill

The Lesser Adjutant *Leptoptilos javanicus* is still widespread in Assam and flat areas of Arunachal Pradesh.



Photo: Otto Pfister

*Paradoxornis flavirostris*, Jerdon's Babbler *Chrysomma altirostre* and Marsh Babbler *Pellorneum palustre* (A. U. Choudhury *pers. comm.* 2003), White-winged Duck *Cairina scutulata* (Choudhury 1996) and the Bengal Florican *Houbaropsis bengalensis* (Choudhury 1998). The first record of the Spot-billed Pelican *Pelecanus philippensis* in Arunachal Pradesh was from the northern edge of this IBA (not far from Mehao IBA) (Choudhury 2000). This is also an important staging area for migratory birds and a new migration route of the Common Crane *Grus grus* was discovered here (Choudhury 1994).

#### Critically Endangered

Oriental White-backed Vulture	<i>Gyps benghalensis</i>
Slender-billed Vulture	<i>Gyps tenuirostris</i>

#### Endangered

White-winged Duck	<i>Cairina scutulata</i>
Bengal Florican	<i>Houbaropsis bengalensis</i>

#### Vulnerable

Spot-billed Pelican	<i>Pelecanus philippensis</i>
Lesser Adjutant	<i>Leptoptilos javanicus</i>
Swamp Francolin	<i>Francolinus gularis</i>
Marsh Babbler	<i>Pellorneum palustre</i>
Jerdon's Babbler	<i>Chrysomma altirostre</i>
Black-breasted Parrotbill	<i>Paradoxornis flavirostris</i>

#### Endemic Bird Area 131: Assam Plains

Marsh Babbler	<i>Pellorneum palustre</i>
Black-breasted Parrotbill	<i>Paradoxornis flavirostris</i>

### OTHER KEY FAUNA

Among the major mammals are the Tiger *Panthera tigris*, Asian Elephant *Elephas maximus*, Asiatic Wild Buffalo *Bubalus arnee* (= *bubalis*) and Hog Deer *Axis porcinus* (Choudhury 2003).

### LAND USE

- ☐ Forestry
- ☐ Grazing
- ☐ Fishing
- ☐ Agriculture



The Dibang river debouching on to the plains. The wide bed of this river forms part of the Dibang RF and harbours many endangered species such as the Bengal Florican *Houbaropsis bengalensis* and the White-winged Duck *Cairina scutulata*.

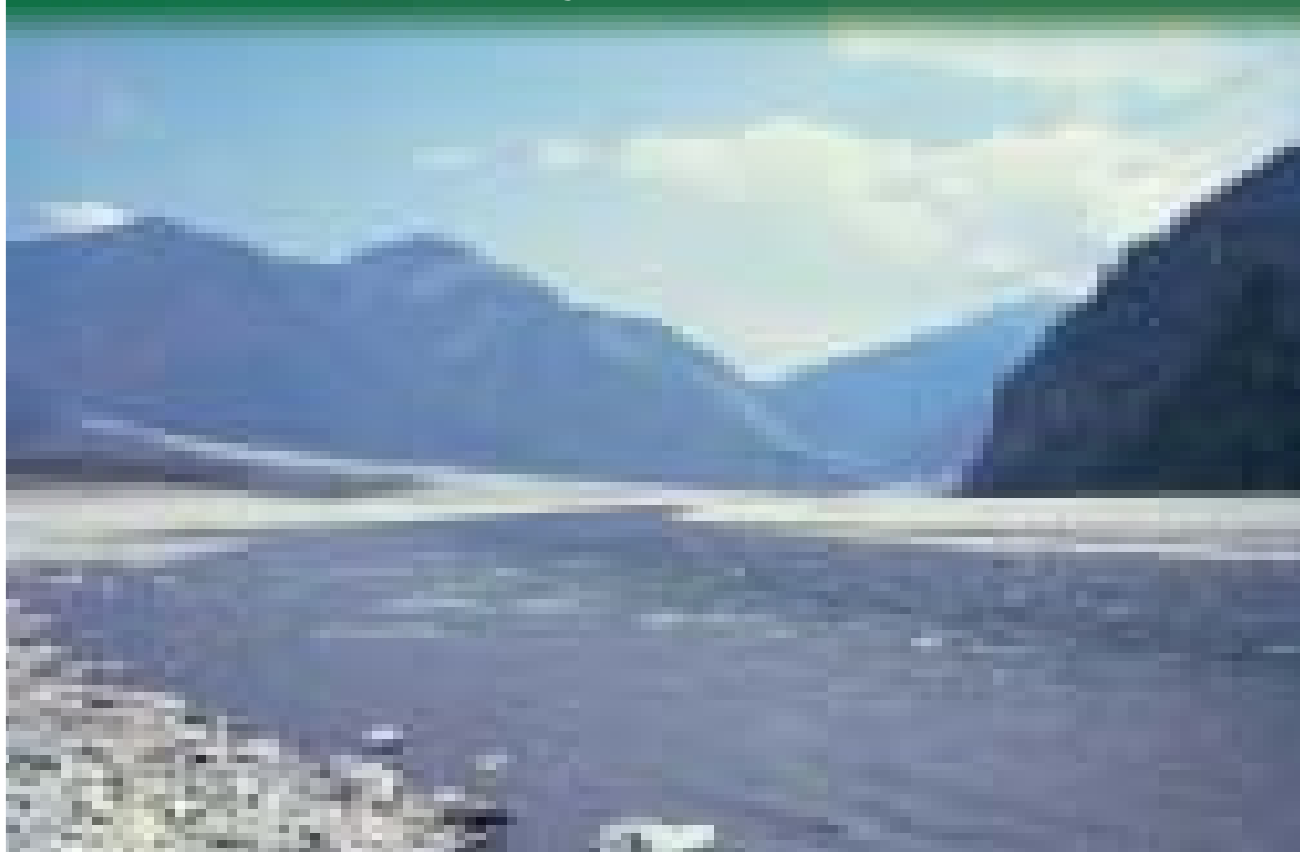


Photo: Anwaruddin Choudhury

#### THREATS AND CONSERVATION ISSUES

- ☐ Encroachment
- ☐ Poaching
- ☐ Grazing
- ☐ Collection of thatching material
- ☐ Felling of trees

The major issue is encroachment and dereservation for human settlement. As more and more people are looking for flat land, there is tremendous pressure on the area. Poaching, grazing of cattle and buffalos, collection of thatching and felling of trees are other major issues. The site was recommended as a protected area to be named the Dibang River National Park covering an area of 202 sq. km (Choudhury 1996).

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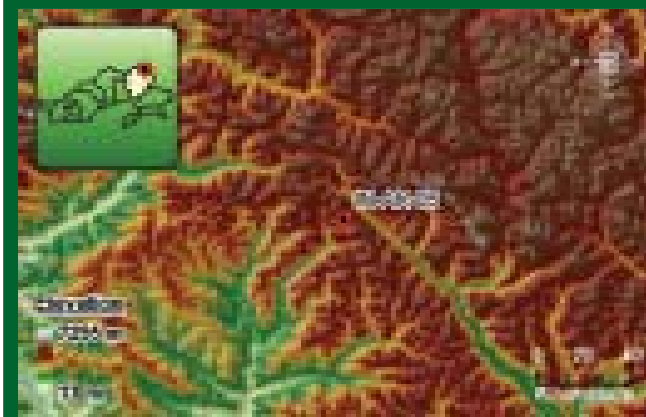
Anwaruddin Choudhury, Nur Hussain, Dilip Handique and Leto Mili

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AR-05

## DIBANG WILDLIFE SANCTUARY



IBA Site Code	: IN-AR-05
State	: Arunachal Pradesh
District	: Upper Dibang Valley
Coordinates	: 29° 15' 31" N, 96° 12' 03" E
Ownership	: State
Area	: 414, 900 ha
Altitude	: 2,000- 5,356 m
Rainfall	: >2,000 mm
Temperature	: 0 °C to 24 °C
Biogeographic Zone	: Himalaya
Habitats	: Sub-tropical Broadleaf Hill Forest, Himalayan Moist Temperate Forest, Sub-Alpine Forest, Alpine Moist Scrub

**IBA CRITERIA:** A1 (Threatened Species), A2 (Endemic Bird Area 130: Eastern Himalayas)  
**PROTECTION STATUS:** Wildlife Sanctuary, established in November 1991.

### GENERAL DESCRIPTION

Dibang Wildlife Sanctuary is often confused with Dibang Reserve Forest, also an IBA. The latter covers the lower reaches of the Dibang river up to Assam-Arunachal Pradesh interstate border. These IBAs are not contiguous. The Dibang WLS lies in the higher mountainous areas of the Mishmi Hills along Indo-China international border. Part of this IBA also falls under Dibang-Dihang Biosphere Reserve.

This large IBA includes the forests and snow-covered peaks of the Mishmi Hills and is the source of the Dibang River and many of its main tributaries. The area is entirely mountainous with deep gorges. The vegetation ranges from Temperate Broadleaf and Temperate Coniferous Forests to Subalpine and Alpine Scrub, while the peaks are barren and remain snow-capped for the greater part of the year (A. U. Choudhury *pers comm.* 2003).

A large part of this IBA is remote and inaccessible, with a long border with Tibet. Very few surveys have been conducted in the area (Kaul *et al.* 1995, Singh 1999), but now the birds and mammals are currently being surveyed (Choudhury 2003a).



Green Cochoa *Cochcoo viridis* is distributed in Northeast India prefers Dense broadleaf evergreen forest.

Photo: Ketil Knudsen / Petrar Lobo

### AVIFAUNA

This large IBA with difficult terrain needs many surveys for a complete assessment of its bird diversity. Four globally Vulnerable species have been recorded so far, the Red-breasted Hill-Partridge *Arborophila mandellii*, Beautiful Nuthatch *Sitta formosa* (Singh 1994), Blyth's Tragopan *Tragopan blythii* and Sclater's Monal *Lophophorus sclateri* (Kaul *et al.* 1995). Ward's Trogon *Harpactes wardi*, a Near Threatened and Restricted Range species, was also recorded in the area (Singh 1994). However, many more globally threatened bird species are likely to occur.

The Common Cranes *Grus grus* that migrate along the Dibang river (Choudhury 1994) eventually cross Dibang WLS on the way to Tibet (China). Among other noteworthy species recorded are the Golden Eagle *Aquila chrysaetos*, Himalayan or Impeyan Monal *Lophophorus impejanus* and Himalayan Griffon *Gyps himalayensis*.

Vulnerable	
Red-breasted Hill-Partridge	<i>Arborophila mandellii</i>
Blyth's Tragopan	<i>Tragopan blythii</i>
Sclater's Monal	<i>Lophophorus sclateri</i>
Beautiful Nuthatch	<i>Sitta formosa</i>
Near Threatened	
Ward's Trogon	<i>Harpactes wardi</i>

Lower slopes of the Dibang Wildlife Sanctuary still contain some of the finest primary forest areas of Mishmi Hills.



Photo: Anwaruddin Choudhury

**Endemic Bird Area 130: Eastern Himalayas**

Red-breasted Hill-Partridge	<i>Arborophila mandellii</i>
Blyth's Tragopan	<i>Tragopan blythii</i>
Slater's Monal	<i>Lophophorus sclateri</i>
Ward's Trogon	<i>Harpactes wardi</i>
Beautiful Sibia	<i>Heterophasia pulchella</i>

**OTHER KEY FAUNA**

The major mammals found in this IBA are the Snow Leopard *Uncia uncia*, Leopard *Panthera pardus*, Asiatic Black Bear *Ursus thibetanus*, Red Panda *Ailurus fulgens*, Musk Deer *Moschus moschiferus* and Takin *Budorcas taxicolor* (Choudhury 2003b).

**LAND USE**

- ☐ Nature conservation
- ☐ Forestry

**THREATS AND CONSERVATION ISSUES**

- ☐ Poaching
- ☐ Collection of firewood
- ☐ Felling of trees
- ☐ Proposed mega hydroelectric projects

Poaching, including trapping of galliformes, collection of firewood and felling of trees are some of the major issues. In the near future, the massive hydroelectric projects proposed on the Dibang river and its tributaries will be major issues in the whole Dibang Valley area, as these will have serious impact on the environment.

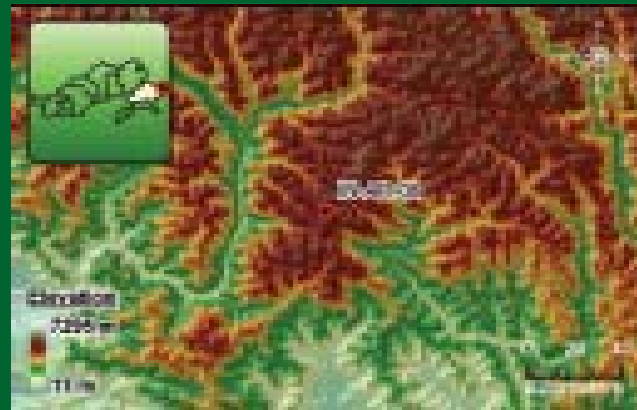
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## DICHU RESERVE FOREST



IBA Site Code	: IN-AR-06
State	: Arunachal Pradesh
District	: Lohit
Coordinates	: 28° 11' 60" N, 97° 20' 60" E
Ownership	: State
Area	: 1,79,200 ha
Altitude	: 1,100 - 3,800 m
Rainfall	: Not available
Temperature	: 0 °C to 32 °C
Biogeographic Zone	: Himalaya
Habitats	: Sub-tropical Dry Evergreen Forest, Sub-tropical Broadleaf Forest, Himalayan Moist Temperate Forest, Sub-Alpine Dry Scrub, Alpine Dry Scrub

**IBA CRITERIA:** A1 (Threatened Species), A2 (Endemic Bird Area 130: Eastern Himalayas)

**PROTECTION STATUS:** Not officially protected

### GENERAL DESCRIPTION

The Dichu or Ditchu Reserve Forest lies in the northeastern part of Lohit district of Arunachal Pradesh, and covers an area of 179,200 ha. This is the easternmost part of India (Arunachal Pradesh), forming a tri-junction with Tibet and Myanmar. The area is well recognized as the gateway for plant and animal migration between India-Tibet, India-Myanmar and the Malayan region. The vast stretch of Dichu forest is practically undisturbed and has been preserved intact for ages. Species diversity is at its best in this forest (Haridasan *et al.* 1999). The Dichu Valley runs roughly east-west, flanked on both sides by high rise peaks with steep slopes.

The northern ridges are part of the McMahon line. Along the course of the Dichu river valley, where it joins the Lohit river (Negichu) in the west, there is a gradual ascent towards its source in Myanmar. In the Indian territory, eight rivulets drain into Dichu on the northern side, whereas on the southern side seven *nullahs* or rivulets drain into the Dichu river. These are perennial, snow-fed rivers, turbulent and difficult to navigate in many places. However, in flat areas, the flow is gentle. The Dichu river, after flowing for about 50 km westward, drains into Negichu river, after which it is known as the Lohit. The river continues to flow southward. Except for a narrow belt near Dichu, beyond Kahao, where the land appears somewhat plain and plateau-like, the river course has steep slopes and high peaks. Near Jachup, the valley is very wide, and like a meadow. The hills are clothed by dense vegetation of varying types of broadleaf and coniferous species. It is interesting to see large sheets of snow in the higher reaches of the meandering river. The climate of the area is cool temperate type, though the areas near Kahao are slightly warmer than Hotspring and Jachup, where conditions are chilly. The maximum temperature in summer often goes up to 32 °C and the minimum falls below freezing point in winter. Due to the lack of infrastructure, there is no meteorological observatory in this place. The nearest data collection station is at Walong. The climate changes drastically towards more wet conditions from Melinja. Areas beyond Melinja experience heavy snowfall during winter (Haridasan *et al.* 1999).

In the reserve forest, there is very little human habitation. The circle headquarters Kibithoo is the nearest administrative centre. The inhabitants in the nearby villages are of Buddhist and Mishmi

origin. Besides the original inhabitants, a population worth mentioning is that of Nepali labourers. The local people in Kahao village practice a more settled agriculture, using terrace cultivation with well-developed irrigation. Some villagers of the Mishmi tribe go on week-long hunting trips to these interior hills for meat, hide, skulls and other trophies. They also collect wild medicinal plants (Haridasan *et al.* 1999).

Dichu has one of the last remaining extensive forest covers in India. Haridasan *et al.* (1999) identified seven forest types in this areas: Pine Forest, Eastern Himalayan Moist Temperate Forest, Temperate Broadleaf Forest, Temperate Coniferous, Mixed Coniferous Forest, Alpine Forest and grassland.

### AVIFAUNA

A total of 266 bird species have been recorded so far (Hazarika 2003). Among them, the record of Elliot's Laughingthrush *Garrulax elliotii* near Hotspring (3,200 m) on September 15, 1994 is noteworthy (Singh 1994). This appears to be the first record of the species for the Indian subcontinent.

This site covers three biomes: Biome-5 (Eurasian High Montane-Alpine and Tibetan); Biome-7 (Sino-Himalayan Temperate Forest); and Biome-8 (Sino-Himalayan Subtropical Forest). These biome types have their corresponding bird species. For example, BirdLife International (undated) has identified 48 species in Biome-5. Hazarika (2003) has listed 10 species from this biome. In Biome-7, Birdlife International has listed 112 species, of which 74 species are found at this site. Similarly, in Biome-8, of the 95 species listed by BirdLife International, 59 have been seen here. This proves that the site is a very good representative of the extant natural forest of northeast India.

Besides the biome species, many globally threatened and Restricted Range species are also present here. The area is included in the Eastern Himalayas Endemic Bird Area (Stattersfield *et al.* 1998).

Hazarika (2003) claims to have seen two groups of Himalayan or Impeyan Monal *Lophophorus impejanus* near a place called Mesai. According to Ali and Ripley (1987) this pheasant is replaced in the Eastern Himalayas by Sclater's Monal *Lophophorus sclateri*. However, Singh (1994) has recorded it from two sites in Arunachal Pradesh: Magu in the western portion and Malinye in east Arunachal. Malinye is not very far from Mesai.

Another bird of interest is the Pale-capped or Purple Wood-Pigeon *Columba punicea*, of which two flocks were seen in southern Dichu (Hazarika 2003).

Till now five species of pheasants have been reported from this site: Kaleej *Lophura leucomelanos*, Tibetan Eared Pheasant *Crossoptilon harmani*, Himalayan or Impeyan Monal *Lophophorus impejanus*, Blood Pheasant *Ithaginis cruentus* and Grey Peacock Pheasant *Polyplectron bicalcaratum*.

Vulnerable	
Purple Wood-Pigeon	<i>Columba punicea</i>
Rufous-necked Hornbill	<i>Aceros nipalensis</i>
Rusty-bellied Shortwing	<i>Brachypteryx hyperythra</i>
Mishmi Wren-Babbler	<i>Spelaornis badeigularis</i>
Austen's Babbler	<i>Stachyris oglei</i>
Beautiful Nuthatch	<i>Sitta formosa</i>
Near Threatened	
Tibetan Eared Pheasant	<i>Crossoptilon harmani</i>
Ward's Trogon	<i>Harpactes wardi</i>
Rufous-throated Wren-Babbler	<i>Spelaornis caudatus</i>
Endemic Bird Area 130: Eastern Himalayas	
Ward's Trogon	<i>Harpactes wardi</i>
Rusty-bellied Shortwing	<i>Brachypteryx hyperythra</i>
Rufous-throated Wren-Babbler	<i>Spelaornis caudatus</i>
Mishmi Wren-Babbler	<i>Spelaornis badeigularis</i>
Austen's Babbler	<i>Stachyris oglei</i>
Brown-Throated Tit-Babbler	<i>Alcippe ludlowi</i>
Beautiful Sibia	<i>Heterophasia pulchella</i>
White-naped Yuhina	<i>Yuhina bakeri</i>



Photo: Arwanuddin Choudhury

#### OTHER KEY FAUNA

Due to its inaccessibility, the forest is well preserved, and is a true representation of climax type of vegetation. This is the abode of temperate zone mammals such as Red Panda *Ailurus fulgens*, Asiatic Black Bear *Ursus thibetanus*, Goral *Nemorhaedus goral*, Serow *Nemorhaedus sumatraensis*, Musk Deer *Moschus chrysogaster* and Takin *Budorcas taxicolor*. Other important species recorded in the area are Barking Deer *Muntiacus muntjak* and Leopard *Panthera pardus*. Snow Leopard *Uncia uncia* is reported at Melinja, at about 2,000 m (Haridasan *et al.* 1999), but this needs confirmation.

#### LAND USE

- ☐ Forestry
- ☐ Agriculture

#### THREATS AND CONSERVATION ISSUES

- ☐ Collection of medicinal plants and other Non Timber Forest Produce
- ☐ Poaching of animals
- ☐ Slash and burn agriculture in southern Dichu Valley

The Dichu Valley is rich in natural resources. Some of them are harvested for immediate returns, while others are wild precursors of economically important cultivated plants that could provide a wide gene pool for the improvement of cultivated or crossbred varieties.

There is no significant human habitation within the reserved forest. The local people visit the forest particularly for hunting, from the west and the south.

#### KEY CONTRIBUTORS

Asif Hazarika, K. Haridasan, Pratap Singh and Asham Borang

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AR-07

## EAGLENEST AND SESSA SANCTUARIES



<b>IBA Site Code</b>	: IN-AR-07
<b>Administrative Region</b>	: Arunachal Pradesh
<b>District</b>	: West Kameng
<b>Coordinates</b>	: 27° 08' 00" N, 92° 21' 47" E
<b>Ownership</b>	: State
<b>Area</b>	: 31,700 ha
<b>Altitude</b>	: 200 - 3,200 m
<b>Rainfall</b>	: 1,500 - 3,000 mm
<b>Temperature</b>	: 4 °C to 30 °C
<b>Biogeographic Zone</b>	: Himalaya
<b>Habitats</b>	: Sub-tropical Evergreen, Tropical Wet Evergreen, Montane Wet Temperate Forest, Sub-Alpine Forest

**IBA CRITERIA:** A1 (Threatened Species), A2 (Endemic Bird Area 130: Eastern Himalayas; Endemic Bird Area 131: Assam Plains)

**PROTECTION STATUS:** Wildlife Sanctuaries, established in October, 1989

### GENERAL DESCRIPTION

Eaglenest (or Eagle's Nest) Wildlife Sanctuary (ENS) and Sessa Orchid Sanctuary (SOS) are located in West Kameng district, Arunachal Pradesh. Both Eaglenest (217 sq. km) and Sessa (100 sq. km) were notified as protected areas in 1989. The Kameng river and its tributaries (Tipi and Sessa) drain the area. There are a number of small natural waterbodies on the Piri-la ridge at 2,600–2,900 m, which range from tiny pools to lakes of 0.2 ha. The annual rainfall varies from <1,500 mm on the northern slopes to >3,000 mm on the southern slopes of the areas. Heavy snowfall is experienced in winter on Piri-la, while it is medium to low in other areas (especially above 2,000 m, occasionally down to 1,800 m). There are diverse habitats because of the great altitudinal range. Tropical Wet Evergreen and Semi-evergreen Forest occur in the southern parts of both the sanctuaries, especially in the river valleys and gorges, mainly below 900 m.

The forest canopy includes tree species such as *Tetrameles nudiflora* (important for nesting of hornbills), *Terminalia myriocarpa*, *Amoora wallichii* and *Duabanga sonneratioides*. The middle layer includes *Eugenia jambolana*, *Premna benghalensis*, *Albizia procera* and *Macaranga denticulata*. Broadleaf Subtropical Forest dominated by various oak species occurs at

800–1,900 m. Coniferous Subtropical Forest dominated by *Pinus roxburghii*, *P. wallichiana* and *P. kesiya* occurs at 1,000–1,800 m, especially in areas receiving less rainfall. Broadleaf Temperate Forest dominated by oaks, magnolias and rhododendrons, occurs at 1,800–2,800 m. Coniferous Temperate Forest dominated by *Abies spectabilis*, *A. delavayi* and *Taxus baccata* is found at 2,800–3,200 m. Abandoned *jhums* (areas of slash-and-burn cultivation) are covered with grasses such as *Themeda villosa*, *Saccharum procerum* and *Imperata cylindrica*, and various scrubs. There are also large clumps of bamboo, especially *Arundinaria* sp. (at 1,800–2,750 m), *Dendrocalamus hamiltonii*, *Semiarundinaria pantlingi* (at 2,700–2,900 m near Eaglenest pass), *Thamnochlamus aristatus* (above 2,700 m) and *T. spathiflora* (over 3,050 m on Piri-la ridge).

### AVIFAUNA

A total of 353 species of birds have been recorded from these sanctuaries but more than 400 are likely to occur (Choudhury 2003).

The Vulnerable and Restricted Range bird Blyth's Tragopan *Tragopan blythii* occurs in the Sessa Orchid Sanctuary and nearby areas but not frequently, as the species faces hunters regularly. One skin of this bird was examined by Choudhury (2003) which could be subspecies *molesworthi*, known from Bhutan, adjacent to Tibet and Arunachal Pradesh, as the specimen was darker.

The Vulnerable Rufous-necked Hornbill *Aceros nipalensis* is also found in this IBA but in low numbers as hunting is prevalent in the area (Choudhury 2003).

A male of the Vulnerable Rusty-bellied Shortwing *Brachypteryx hyperythra* was also sighted between Lamacamp and Saltlick at 2,600 m in October 2000 (Choudhury 2003). The rare and elusive Beautiful Nuthatch *Sitta formosa* is also reported from this IBA (Choudhury 2003).

The Restricted Range species such as Hoary-throated Barwing *Actinodura nipalensis*, Beautiful Sibia *Heterophasia pulchella* and White-naped Yuhina *Yuhina bakeri* have also been reported from this IBA (Ahmed *et. al.* 2002, Choudhury 2003).

Among the Near Threatened species, Satyr Tragopan *Tragopan satyra*, Great Pied Hornbill *Buceros bicornis*, Ward's Trogon *Harpactes wardi* have been reported (Choudhury 2003). Other important species include the Lesser Rufous-headed Parrotbill

Eaglenest and Sessa Orchid Sanctuaries are contiguous and provide refuge to endangered species such as Blyth's Tragopan and Rufous-necked Hornbill.



Photo: Anwaruddin Choudhury

*Paradoxornis atrosuperciliaris* and the Greater Rufous-headed Parrotbill *P. ruficeps*.

Some other interesting birds found in this IBA are: Banded Bay Cuckoo *Cacomantis sonneratii* which was first record for the state (Choudhury 2003), and Rufous-bellied Eagle *Hieraetus kienerii* recorded at 2,750 m elevation (known elevation is 1,500 m in Arunachal and 1,740 m in Bhutan) (Choudhury 2003, Grimmett *et al.* 1998)

Vulnerable	
Blyth's Tragopan	<i>Tragopan blythii</i>
Marsh Babbler	<i>Pellorneum palustre</i>
Rufous-necked Hornbill	<i>Aceros nipalensis</i>
Rusty-bellied Shortwing	<i>Brachypteryx hyperythra</i>
Beautiful Nuthatch	<i>Sitta formosa</i>
Near Threatened	
Satyr Tragopan	<i>Tragopan satyra</i>
Ward's Trogon	<i>Harpactes wardi</i>
Great Pied Hornbill	<i>Buceros bicornis</i>
Endemic Bird Area 130: Eastern Himalayas	
Blyth's Tragopan	<i>Tragopan blythii</i>
Ward's Trogon	<i>Harpactes wardi</i>
Rusty-bellied Shortwing	<i>Brachypteryx hyperythra</i>
Hoary-throated Barwing	<i>Actinodura nipalensis</i>
Austen's Barwing	<i>Actinodura waldeni</i>
Beautiful Sibia	<i>Heterophasia pulchella</i>
White-naped Yuhina	<i>Yuhina bakeri</i>
Broad-billed Flycatcher-Warbler	<i>Tickellia hodgsoni</i>
Endemic Bird Area 131: Assam Plains	
Marsh Babbler	<i>Pellorneum palustre</i>

#### OTHER KEY FAUNA

Not much is known about other fauna except for the Red Panda *Ailurus fulgens*, which has been recorded from this IBA.

#### LAND USE

- q Nature reserve
- q Orchid research and conservation
- q Tourism and recreation

#### THREATS AND CONSERVATION ISSUES

- q Felling
- q *Jhum* cultivation
- q Hunting
- q Development activities, e.g. dam project, road construction

Though large-scale tree felling is not seen in these protected areas, occasional illegal felling, especially along the Doimara Nullah (valley) does occur. In the reserved forests and unclassified areas, felling has stopped since 1996-1997. Prior to that, large-scale logging operations were conducted on the slopes facing Rupa, Jigaon, and in Chilipam (southwest of Rupa) and Shergaon areas.

Slash-and-burn shifting cultivation (*jhum*) has also destroyed some fine natural forest outside SOS (southeast of Tenga Valley).

Accidental and deliberate forest fires have ravaged large parts of ENS and SOS, especially in the higher areas with temperate conifers.

Poaching is still a major conservation problem, except in the interior inaccessible areas of ENS and SOS. However, it occurs on the fringe, occasionally along the Tenga-Doimara road and in the adjacent forests outside the sanctuaries. Some hunters use trained dogs to chase mammals such as Goral *Nemorhaedus goral* and galliform birds. Except for larger birds such as Hornbills, hunting with guns is still not very significant. However, Tragopans, Hill Partridges and Kaleej Pheasants are regularly snared along the Tenga-Doimara road and the Bomdila-Bhalukpong road.

Protection measures need to be considerably strengthened. An increased presence of wildlife staff is necessary at Khellong to protect the western part of ENS.

With the possible opening of the Tenga-Doimara route for vehicular traffic in the near future, protection measures along the road must be strengthened. Camps should be set up at Sissini, Bompu, Chaku, and Sundarview, with a larger one at Lamacamp. The wildlife staff should be provided with better infrastructural facilities such as jeeps, motorcycles and modern firearms. Poaching, including snaring by labourers, should be stopped through stricter law enforcement.

Road construction, especially the Tenga-Doimara road, which bisects the ENS, has severe impacts on the area. The labourers fell trees for fuel and building material, and hunt galliformes with snares. The General Road Engineer's Force, which is responsible for development and maintenance of the road network, should prohibit poaching and substitute coal or other materials for fuel and heating.

The ENS should be extended to cover the 15 sq. km strip of forest from Eaglenest Pass to Tamam Top. This stretch is easily accessible from Ramalingam, has great tourism potential, includes 4-5 small lakes, is excellent for birdwatching, and in summer it supports the Asian Elephant *Elephas maximus*. The Tenga-Doimara road should form its eastern boundary up to Alubari (north of Lamacamp). Among important bird records from this proposed area were Satyr Tragopan *Tragopan satyra*, Ward's Trogon *Harpactes wardi*, Gould's Shortwing *Brachypteryx stellata*, Rusty-bellied Shortwing *Brachypteryx hyperythra*, Broadbilled Warbler *Tickellia hodgsoni*, Hoary-throated Barwing *Actinodura nipalensis*, Beautiful Sibia *Heterophasia pulchella*, White-naped Yuhina *Yuhina bakeri* and Greater Rufous-headed Parrotbill *Paradoxornis ruficeps*.

Further survey work should be carried out in the Doimara Nullah in ENS, and in the upper reaches of Tipi Nullah, and the hill top areas of SOS.

#### KEY CONTRIBUTORS

Anwaruddin Choudhury, Firoz Ahmed and Kulojyoti Lahkar

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AR-08

## ITANAGAR WILDLIFE SANCTUARY



<b>IBA Site Code</b>	: IN-AR-08
<b>State</b>	: Arunachal Pradesh
<b>District</b>	: Papum Pare
<b>Coordinates</b>	: 27° 05' 39" N, 93° 30' 15" E
<b>Ownership</b>	: State
<b>Area</b>	: 14,030 ha (c. 10,000 ha IBA)
<b>Altitude</b>	: 250 - 460 m
<b>Rainfall</b>	: >2,500 mm
<b>Temperature</b>	: 5 °C to 38 °C
<b>Biogeographic Zone</b>	: Himalaya
<b>Habitats</b>	: Tropical Semi-evergreen Forest

**IBA CRITERIA:** A1 (Threatened Species), A2 (Endemic Bird Area 130: Eastern Himalayas)

**PROTECTION STATUS:** Wildlife Sanctuary, established in June 1978

### GENERAL DESCRIPTION

Itanagar Wildlife Sanctuary is unique in the sense that the state capital, Itanagar, is located inside the Sanctuary! The major business town of Arunachal Pradesh was Naharlagun, but the capital was shifted to Itanagar. As the town grew, large-scale deforestation took place. For the expansion of the Itanagar capital complex, c. 43 sq. km area is proposed to be excluded from the Sanctuary, while on the western border, an area of equal size is proposed to be added to the Sanctuary. Out of 14,080 ha, we have designated about 10,000 ha of forest area, excluding the capital city and other settlements, as the IBA.

The Sanctuary is located north of the Drupong Reserve Forest. Poma, Pam, Pachin, Neorocho and Chingke are the major streams. The area is entirely hilly, with a few valleys.

The forest is a heterogenous mixture of evergreen and semi-evergreen forest types. Pure stands of bamboo occur all over the IBA.

### AVIFAUNA

Even in this disturbed Sanctuary, 182 bird species have been reported (Singh 1994; Kumar 2003). The White-winged Duck *Cairina scutulata* is likely to occur in the Sanctuary or in the adjoining Drupong Reserve Forest (A. U. Choudhury *pers. comm.* 2003). Four species of hornbills, the Great Pied *Buceros bicornis*,

Wreathed *Aceros undulatus*, Oriental Pied *Anthracoseros albirostris* and Rufous-necked Hornbill *Aceros nipalensis* occur in the area.

This site is selected as an IBA based on the presence of globally threatened species. The site lies in the Eastern Himalayas Endemic Bird Area (EBA 130). Stattersfield *et al.* (1998) have listed 21 Restricted Range species in this IBA. There are chances of occurrence of the Broad-billed Warbler *Tickellia hodgsoni* and Yellow-vented Warbler *Phylloscopus cantator*. As these species have a much wider winter range, they could be present here. The forests of this IBA could also have Beautiful Sibia *Heterophasia pulchella*. The site is also important as a centre of environmental education due to its easy accessibility for the citizens of Itanagar.

Endangered	
White-winged Duck (?)	<i>Cairina scutulata</i>
Vulnerable	
Lesser Kestrel	<i>Falco naumanni</i>
Rufous-necked Hornbill	<i>Aceros nipalensis</i>

### OTHER KEY FAUNA

This area is known for the presence of threatened mammals such as the Asian Elephant *Elephas maximus*, Tiger *Panthera tigris*, Asiatic Black Bear *Ursus thibetanus*, Gaur *Bos frontalis* and Wild Dog *Cuon alpinus*. The primates include Assamese Macaque *Macaca assamensis*, Rhesus Macaque *M. mulatta*, Capped Langur *Trachypithecus pileata* and Slow Loris *Nycticebus coucang*.

### LAND USE

- ☐ Nature conservation
- ☐ Tourism
- ☐ Urban settlement

### THREATS AND CONSERVATION ISSUES

- ☐ Hunting
- ☐ Encroachment
- ☐ Urbanisation
- ☐ Timber smuggling
- ☐ Non-timber forest produce (NTFP) collection



Ganga Lake is a major wetland in Itanagar WLS although few waterbirds are seen due to disturbance.

Photo: Anwaruddin Choudhury



Itanagar WLS is under tremendous pressure due to presence of the capital town in it. The surviving natural habitat is left along the river gorges and hilltops



Photo: Anwaruddin Choudhury

AR-08

The Itanagar WLS was earlier rich in forest cover with abundant wildlife, but after the setting up of the capital city at Itanagar, primary forests have been degraded and replaced with secondary growth. The forest cover on the lower hills all along the Assam-Arunachal border, which was extensive, is now highly fragmented. Species such as Asian Elephant, which mainly occur in the lower hills, are deprived of their habitat and have now come into direct conflict with humans.

Encroachments for *jhum* (slash-and-burn) cultivation, heavy timber felling as permitted under the Capital complex construction, apart from illegal logging, along with the high demand for firewood and other non-timber forest produce, poses a serious threat to the standing forest cover in the Sanctuary. Hunting is a serious threat and is widespread throughout the Sanctuary. The presence of a large number of villages and a growing human population in the city nearby has led to an increased demand for wild meat. There is regular loss of livestock (Mithun, a semi domesticated cattle species) due to attacks by Wild Dogs in recent years, which could be a result of decreasing prey base in the Sanctuary. Hunting by the local people could also be the reason for the loss of prey base.

#### KEY CONTRIBUTORS

R. Suresh Kumar, Bharat Bhushan Bhatt and Anwaruddin Choudhury

#### KEY REFERENCES

- Kumar, R. S. (2003) A report on a few selected Important Bird Areas of Arunachal Pradesh. Submitted to the IBCN-BNHS, Mumbai (Unpublished).
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AR-09

## KANE WILDLIFE SANCTUARY



<b>IBA Site Code</b>	: IN-AR-09
<b>State</b>	: Arunachal Pradesh
<b>District</b>	: West Siang
<b>Coordinates</b>	: 27° 40' 00" N, 94° 39' 00" E
<b>Ownership</b>	: State
<b>Area</b>	: 5,500 ha
<b>Altitude</b>	: 120 - 1,500 m
<b>Rainfall</b>	: >2,500 mm
<b>Temperature</b>	: 5 °C to 32 °C
<b>Biogeographic Zone</b>	: Himalaya
<b>Habitats</b>	: Tropical Dry Evergreen Forest, Sub-tropical Broadleaf Hill Forest

**IBA CRITERIA:** A1 (Threatened Species), A2 (Endemic Bird Area 130: Eastern Himalayas)

**PROTECTION STATUS:** Wildlife Sanctuary, established in September 1991

### GENERAL DESCRIPTION

This little known Sanctuary lies close to the Assam-Arunachal border and can be approached from Likabali on the way to Along, the district headquarters. A large number of streams and small rivers intersect the Sanctuary; the River Siji forms the western boundary of the area. The terrain is mainly hilly, with steep to gentle slopes that are covered by dense vegetation. Access to the interior of the Sanctuary is limited due to lack of roads, and so the forest especially the interior is untouched and pristine. The forest is a heterogeneous mixture of evergreen and semi-evergreen species. Bamboo forms a dense under-storey.

### AVIFAUNA

So far about 70 species have been recorded in the Kane WLS (Kumar 2003), but probably four times as many occur there (A. U. Choudhury *pers. comm.* 2003). There are a few pools deep inside the Sanctuary that appear ideal for the Endangered White-winged Duck *Cairina scutulata*, though none were seen. Local hunters report Rufous-necked Hornbill *Aceros nipalensis*, a species considered Vulnerable.

The site lies in Eastern Himalayas Endemic Bird Area (EBA 130). In this EBA, 21 species have been listed, and from this site, only two species have been identified but need further confirmation. Once detailed studies are conducted on the bird diversity of this site, more Restricted Range species are likely to be found.

Owing to great variation in altitude from 120 m to 1,500 m, and presence of good forest cover of Tropical Evergreen and Subtropical Broadleaf, forest birds of Biome-9 (Indo-Chinese Tropical Moist Forest) and Biome-8 (Sino-Himalayan Subtropical Forest) are likely to be found. Therefore, this site would qualify in A3 (Biome-restricted assemblages) criteria also.

Endangered	
White-winged Duck (?)	<i>Cairina scutulata</i>
Vulnerable	
Rufous-necked Hornbill	<i>Aceros nipalensis</i>

### Endemic Bird Area 130: Eastern Himalayas

Beautiful Sibia (?)	<i>Heterophasia pulchella</i>
Broad-billed Flycatcher-Warbler (?)	<i>Tickellia hodgsoni</i>

### OTHER KEY FAUNA

The area is known for the presence of threatened mammals such as Asian Elephant *Elephas maximus*, Tiger *Panthera tigris*, Asiatic Black Bear *Ursus thibetanus*, Wild Dog *Cuon alpinus*, and Gaur *Bos frontalis*. There is little information available on the other fauna in the area.

### LAND USE

- ☐ Nature conservation
- ☐ Agriculture

### THREATS AND CONSERVATION ISSUES

- ☐ Hunting
- ☐ Illegal felling of trees

The Kane WLS is important for its relatively undisturbed pristine habitats. This area needs to be preserved for the conservation of threatened birds and mammals such as the Elephant and Tiger that have been lost elsewhere. There is some resentment amongst local people on the establishment of this Sanctuary, since they cannot hunt or collect forest products from the area anymore.

Though it is located very close to the Assam-Arunachal border, this IBA has faced relatively few threats. Logging activities were mainly concentrated along the fringe areas, and encroachment for agriculture has been minimal. Hunting does occur, but it is much less than in other lowland areas.

### KEY CONTRIBUTORS

Suresh Kumar, Bharat Bhushan Bhatt and Anwaruddin Choudhury

### KEY REFERENCE

Kumar, R. S. (2003) A report on a few selected Important Bird Areas of Arunachal Pradesh. Submitted to the IBCN-BNHS, Mumbai (Unpublished).

## KOLORIANG- SARLI-DAMIN AREAS



<b>IBA Site Code</b>	: IN-AR-10
<b>State</b>	: Arunachal Pradesh
<b>District</b>	: Lower Subansiri
<b>Coordinates</b>	: 27° 40' 18" N, 93° 17' 51" E
<b>Ownership</b>	: Community
<b>Area</b>	: c. 2,00,000 ha
<b>Altitude</b>	: 800 – 5,000 m
<b>Rainfall</b>	: >1,800 mm
<b>Temperature</b>	: 0 °C to 25 °C
<b>Biogeographic Zone</b>	: Himalaya
<b>Habitats</b>	: Sub-tropical Dry Evergreen, Montane Wet Temperate Forest, Sub-Alpine Dry Scrub, Alpine Dry Pasture

**IBA CRITERIA:** A1 (Threatened Species), A2 (Endemic Bird Area 130: Eastern Himalayas)

**PROTECTION STATUS:** Not officially protected

### GENERAL DESCRIPTION

This site is a large area c. 2,00,000 ha in the Lower Subansiri district around Koloriang, Sarli and Damin areas. As the altitude varies from 800 m to 5,000 m, four biome types are found in this area.

Tropical evergreen and semi-evergreen forests usually occur in the lower areas, mainly below 900 m. Here, closed canopy forests with many storeys are seen. Subtropical forests occur from 900 m to 1,800 m, temperate forests between 1,800 m and 3,500 m, sub-alpine from 3,500 m to 4,300 m, and alpine meadows from 3,700 m to 5,500 m.

### AVIFAUNA

A detailed checklist of the birds of this IBA is not available. However, Singh (1994) and Kumar and Singh (1999) have conducted general surveys of this and other areas of Arunachal Pradesh.

A significant discovery from this area is a new monal species of *Lophophorus*. The males of the new monal appeared very similar to the male of Sclater's Monal *Lophophorus sclateri*, except for the completely white tail in the former. The new monal was sighted on nine occasions (5 males, 13 females and 1 subadult) in the Sarli circle of Lower Subansiri district. All sightings were made in the alpine meadows between 3,900 m and 4,200 m (Kumar and Singh 1999). Feathers of this taxon were found in Tali and Damin, indicating a wide distribution in this area (Kumar and Singh 1999).

In the upper reaches of Lower Subansiri district, beside the new taxon of monal pheasant, Kumar and Singh (1999) have recorded the following pheasants: Temminck's Tragopan *Tragopan temminckii*, Blood Pheasant *Ithaginis cruentus* and Black-breasted Kaleej *Lophura leucomelanos lathami*.

Kumar and Singh (1999) found feathers of the Rufous-necked Hornbill *Aceros nipalensis* near Koloriang at an altitude of 1,000 m. There is a stray record of Black-necked Crane *Grus nigricollis* in Koloriang (Choudhury 2002).

This site falls in the Eastern Himalayas Endemic Bird Area (EBA) (Stattersfield *et al.* 1998), in which 21 species are considered as Restricted Range. Nine Restricted Range species are found here but some need further confirmation. The new monal taxon is confined to a narrow altitudinal belt in Arunachal Pradesh (Kumar

and Singh 1999), so it would also qualify for Restricted Range status.

As the altitude of this IBA varies from 800 to 5,000 m, four biomes are represented here: Biome-5 (Eurasian High Montane- Alpine and Tibetan) above c. 3,600 m; Biome-7 (Sino-Himalayan Temperate Forest,) between c. 1,800 m to 3,600 m; Biome-8 (Sino-Himalayan Subtropical Forest,) between c. 1,000 m to 2,000 m; and Biome-9 (Indo-Chinese Tropical Moist Forest,) below 1,000 m. Studies on birds are required to find out how many Biome-restricted species are found in this IBA. As the habitat is intact in many parts of this IBA, significant populations of many Biome-restricted species are likely to be present. Therefore, we feel that this IBA perfectly fits A3 criteria also.

Endangered	
New Monal Taxon	<i>Lophophorus</i> sp.
Vulnerable	
Rufous-necked Hornbill	<i>Aceros nipalensis</i>
Rusty-bellied Shortwing (?)	<i>Brachypteryx hyperythra</i>
Mishmi Wren-Babbler (?)	<i>Spelaeornis badeigularis</i>
Near Threatened	
Ward's Trogon (?)	<i>Harpactes wardi</i>
Wedge-billed Wren-Babbler	<i>Sphenocichla humei</i>
Endemic Bird Area 130: Eastern Himalayas	
Ward's Trogon (?)	<i>Harpactes wardi</i>
Rusty-bellied Shortwing (?)	<i>Brachypteryx hyperythra</i>
Mishmi Wren-Babbler (?)	<i>Spelaeornis badeigularis</i>
Wedge-billed Wren-Babbler	<i>Sphenocichla humei</i>
Brown-throated Tit- Babbler	<i>Alcippe ludlowi</i>
Beautiful Sibia	<i>Heterophasia pulchella</i>
White-naped Yuhina	<i>Yuhina bakeri</i>
Black-browed Leaf-Warbler	<i>Phylloscopus cantator</i>
Broad-billed Flycatcher-Warbler	<i>Tickellia hodgsoni</i>

### OTHER KEY FAUNA

There are confirmed records of Tiger *Panthera tigris* and Leopard *P. pardus* in Sarli and Damin areas (Kumar and Singh 1999). Other larger mammals found in this IBA are the Asiatic Black Bear *Ursus*

AR-10

Very good forest cover is seen in Koloriang-Sarli-Damin.

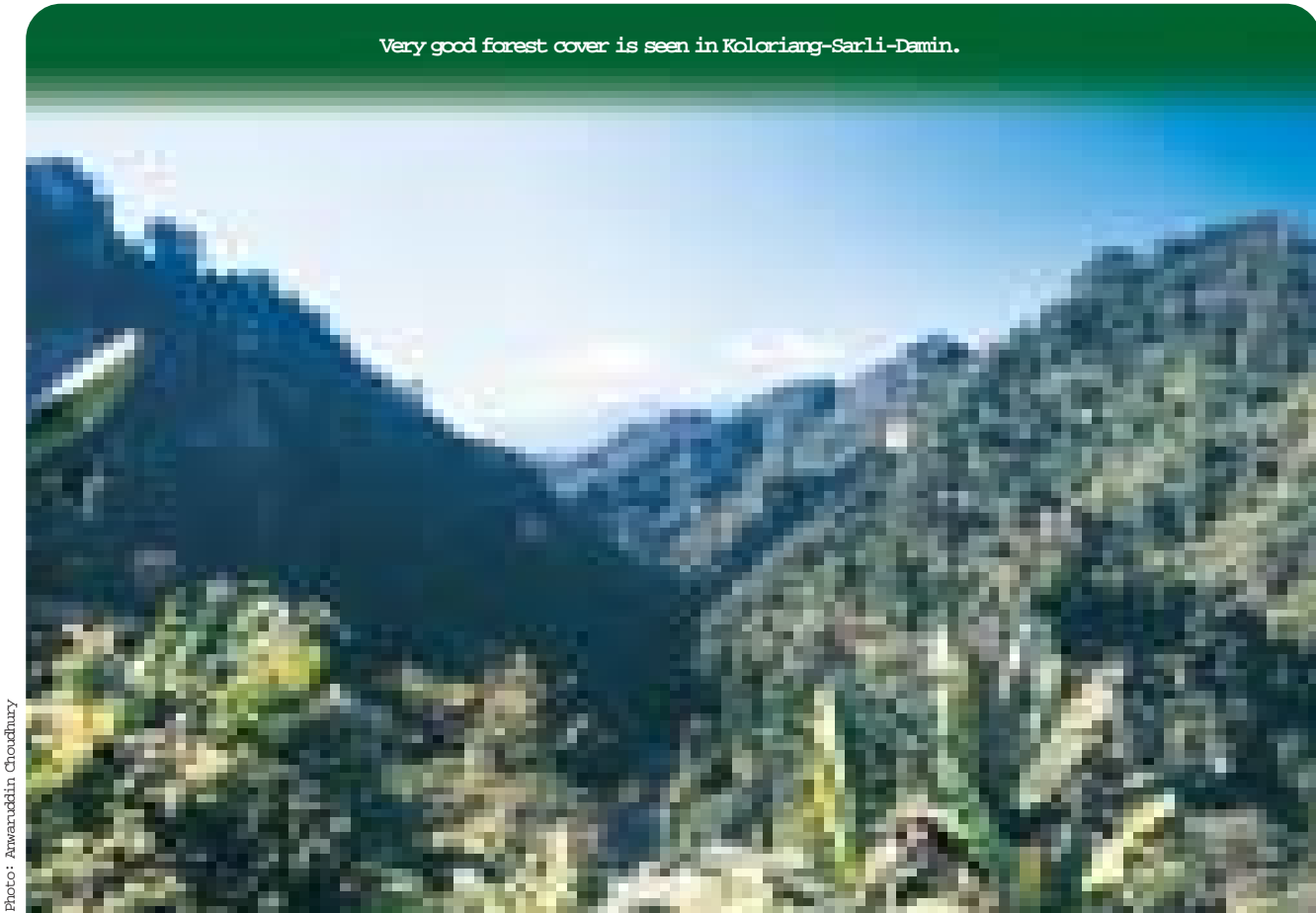


Photo: Anwaruddin Choudhury

*thibetanus*, Takin *Budorcas taxicolor*, Serow *Nemorhaedus sumatraensis*, Goral *Nemorhaedus goral* and Musk Deer *Moschus chrysogaster*. Sambar *Cervus unicolor* and Barking Deer *Muntiacus muntjak* are reported from the lower region.

#### LAND USE

- ☐ Cultivation
- ☐ Sustainable hunting

#### THREATS AND CONSERVATION ISSUES

- ☐ Hunting
- ☐ Timber operation

The discovery of a new pheasant taxon gives this area (and other nearby IBAs where it is found) priority protection. Kumar and Singh (1999) found that all pheasant species, including the new taxon, are hunted for food. Hunting is a part of the culture of the tribes living here and in practice it would be difficult to curb. Therefore, the first step towards conservation of pheasants could be through setting up of large protected areas, and intense environmental education. Most of the protected areas in Arunachal Pradesh are in the lower reaches, only few are situated above 3,000 m. Most of the pheasant species of conservation concern inhabit above 2,000 m. Kumar and Singh (1999) found evidence that the new pheasant taxon occurs only between 92° to 94° E, above 3,000 m elevation and along the Great Himalayan Range. Some of the areas important for pheasants are also the regular haunts of

endangered species such as the Takin, Musk Deer and Red Panda - all Schedule I species under the Indian Wildlife (Protection) Act. We suggest that a new protected area should be declared in the habitat of the new Monal taxon that is probably endemic to Arunachal Pradesh. According to the local people, areas above 2,000 m are unfit for cultivation, so hunting is the only occupation. This can be replaced by guided bird watching tours.

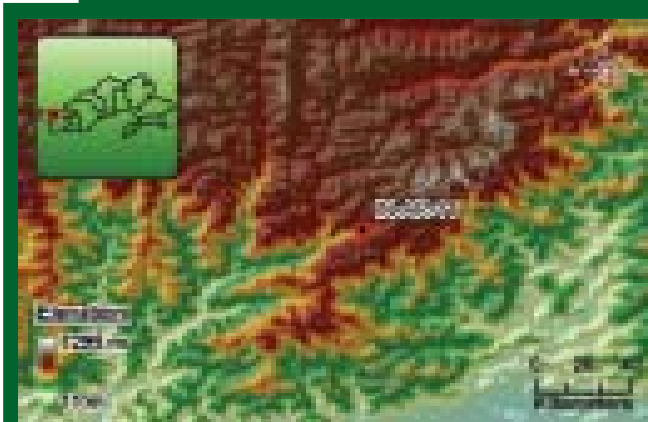
#### KEY CONTRIBUTORS

Suresh Kumar and Bikul Goswami

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## MAGU THINGBU



<b>IBA Site Code</b>	: IN-AR-11
<b>Administrative Region</b>	: Arunachal Pradesh
<b>District</b>	: Tawang
<b>Coordinates</b>	: 27° 40' 00" N, 92° 10' 00" E
<b>Ownership</b>	: Community
<b>Area</b>	: Not available
<b>Altitude</b>	: 2,000 - 4,000 m
<b>Rainfall</b>	: Not available
<b>Temperature</b>	: 0 °C to 32 °C
<b>Biogeographic Zone</b>	: Himalaya
<b>Habitats</b>	: Temperate conifer, temperate Broadleaf Hill Forest, Sub-Alpine Forest, Alpine Dry Pasture

**IBA CRITERIA:** A1 (Threatened Species), A2 (Endemic Bird Area 130: Eastern Himalayas), A3 (Biome-7: Sino-Himalayan Temperate Forest; Biome-5: Eurasian High Montane - Alpine and Tibetan)

**PROTECTION STATUS:** Not officially protected

### GENERAL DESCRIPTION

Magu Thingbu is a high altitude area with characteristic forest types such as Mixed Broadleaf in the lower reaches to Temperate Coniferous Forest in the higher reaches. Most of the area remains permanently covered with snow; the international border with China to the north demarcates the area. There are large pure stands of Juniper forest, and some high altitude lakes. There is very little information on the area.

### AVIFAUNA

Notable is the Wood Snipe *Gallinago nemoricola*, of which one was collected and many seen in the hills west of Magu, at 4,250 m in 1934 (Ludlow and Kinnear 1937). The present status of this globally threatened species is not known.

According to A. U. Choudhury (*pers. comm.* 2003), the endangered White-bellied Heron *Ardea insignis* is likely to occur at the lower reaches, while Sclater's Monal *Lophophorus sclateri* would be present above 3,000 m. Extensive tracts of Temperate Conifers and Broadleaf Hill Forest still exist in this IBA, and are extremely important for species such as Beautiful Nuthatch *Sitta formosa* (Vulnerable) and Satyr Tragopan *Tragopan satyra* (Near Threatened). Perhaps, significant populations of these species are found here (Dey 2003). Among other Near Threatened species, only Blue-naped Pitta *Pitta nipalensis* has been identified till now, but more bird species of this category are likely to be present.

The Tawang Chu (*Chu*=river) flowing through Thingbu Circle with snow-capped peaks above Magu visible. This is a remote IBA of the Eastern Himalayas.



Photo: Anwaruddin Choudhury

Vulnerable	
Sclater's Monal	<i>Lophophorus sclateri</i>
Rufous-necked Hornbill (?)	<i>Aceros nipalensis</i>
Beautiful Nuthatch	<i>Sitta formosa</i>
Endemic Bird Area 130: Eastern Himalayas	
Sclater's Monal	<i>Lophophorus sclateri</i>
Brown-throated Tit Babbler	<i>Alcippe ludlowi</i>
Striped Laughingthrush	<i>Garrulax virgatus</i>
Biome-5: Eurasian High Montane	
Himalayan Griffon	<i>Gyps himalayensis</i>
Snow Pigeon	<i>Columba leuconota</i>
Wallcreeper	<i>Tichodroma muraria</i>
Biome-7: Sino-Himalayan Temperate Forest	
White-throated Laughingthrush	<i>Garrulax albogularis</i>
Striated Laughingthrush	<i>Garrulax striatus</i>
Spotted Laughingthrush	<i>Garrulax ocellatus</i>
Streaked Laughingthrush	<i>Garrulax lineatus</i>
Scaly Laughingthrush	<i>Garrulax subunicolor</i>
Black-faced Laughingthrush	<i>Garrulax affinis</i>
Golden-breasted Fulvetta	<i>Alcippe chrysotis</i>
Green-backed Tit	<i>Parus monticolus</i>
Bar-tailed Tree-Creeper	<i>Certhia himalayana</i>
Rusty-flanked Tree-Creeper	<i>Certhia nipalensis</i>

The site lies in Eastern Himalayas Endemic Bird Area (EBA 130) in which Stattersfield *et al.* (1998) have listed 21 species as Restricted Range. Four species are known to occur at this site.

This site also has two biomes: Biome-7 (Sino-Himalayan Temperate Forest) and Biome-5 (Eurasian High Montane- Alpine and Tibetan), according to the classification of BirdLife International (undated). Only three species of Biome-5 have been seen, out of the 48 listed by BirdLife International. There is a long list of 112 species of Biome-7 but only nine bird species could be identified till now. This is more due to lack of proper detailed study than due to paucity of birds.

#### OTHER KEY FAUNA

No information

#### LAND USE

- ☐ Agriculture
- ☐ Forestry
- ☐ Nature conservation
- ☐ Military

#### THREATS AND CONSERVATION ISSUES

- ☐ Shifting cultivation
- ☐ Poaching
- ☐ Felling

The area is not as susceptible to hunting as other parts of Arunachal Pradesh because the small local population is Buddhist. However, army personnel are responsible for the occasional poaching that occurs here.

#### KEY CONTRIBUTORS

Bharat Bhushan Bhatt, Bablu Dey and Anwaruddin Choudhury

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## MANABUM AND TENGAPANI RESERVE FORESTS



<b>IBA Site Code</b>	: IN-AR-12
<b>State</b>	: Arunachal Pradesh
<b>District</b>	: Ichit
<b>Coordinates</b>	: 27° 41' 00" N, 96° 04' 00" E
<b>Ownership</b>	: State
<b>Area</b>	: 58,000 ha
<b>Altitude</b>	: 100 – >400 m
<b>Rainfall</b>	: 2,200 – 4,000 mm
<b>Temperature</b>	: 6 °C to 32 °C
<b>Biogeographic Zone</b>	: Himalaya
<b>Habitats</b>	: Tropical Wet Evergreen Forest

**IBA CRITERIA:** A1 (Threatened Species)  
**PROTECTION STATUS:** Not officially protected

### GENERAL DESCRIPTION

This IBA consists of two large and contiguous reserve forests, Tengapani (44,400 ha) and Manabum (13,600 ha) in eastern Arunachal Pradesh. The site covers flat plains of the Lohit river as well as low to medium hills, which are part of the Dapha Bum Range of Mishmi Hills. A large number of perennial streams are found in this IBA. Most of this IBA forms part of the Eastern Himalayas Endemic Bird Area with a small area resembling the Assam Plains.

Tall wet savanna grassland covers small areas, often along the bends of streams. However, Tropical Wet Evergreen Forest, although degraded at places, forms a major part of the site (A. U. Choudhury *pers. comm.* 2003).

### AVIFAUNA

Though it is a large forested area rich in biodiversity, this IBA was overlooked in many of the earlier surveys (Singh 1995, 1999). The White-winged Duck *Cairina scutulata* has been reported from both the reserve forests (Choudhury 1996). Some of the unexplored areas of this IBA are potential sites for the threatened Masked Finfoot *Heliopais personata* and White-bellied Heron *Ardea insignis*. Another threatened species, the Purple Wood or Pale-capped Pigeon *Columba punicea* was also reported but needs confirmation. Occurrence of five species of hornbills including the Vulnerable, Rufous-necked *Aceros nipalensis* (mainly seen in winter) and Near Threatened Great Pied *Buceros bicornis* and Brown *Anorrhinus tickelli* is noteworthy (A. U. Choudhury *pers. comm.* 2003).

Endangered	
White-bellied Heron (?)	<i>Ardea insignis</i>
White-winged Duck	<i>Cairina scutulata</i>
Vulnerable	
Masked Finfoot (?)	<i>Heliopais personata</i>
Purple Wood-Pigeon (?)	<i>Columba punicea</i>
Rufous-necked Hornbill	<i>Aceros nipalensis</i>
Near Threatened	
Great Pied Hornbill	<i>Buceros bicornis</i>
Brown Hornbill	<i>Anorrhinus tickelli</i>

### OTHER KEY FAUNA

Among the major mammals are the Tiger *Panthera tigris*, Asian Elephant *Elephas maximus*, Gaur *Bos frontalis* and a large population of Hoolock Gibbon *Hylobates hoolock* (Choudhury 2003).

### LAND USE

- ☐ Forestry
- ☐ Agriculture

### THREATS AND CONSERVATION ISSUES

- ☐ Encroachment
- ☐ Felling of trees
- ☐ Poaching
- ☐ Grazing

The major issue is encroachment and felling of trees. As a large part of the site is flat or gently sloping, encroachment for settlement and cultivation is a major concern. Poaching and grazing of cattle are other problems. The area is recommended as a protected area for the conservation of Gaur *Bos frontalis* (Choudhury 2002), which will also help protect a large habitat of the White-winged Duck.

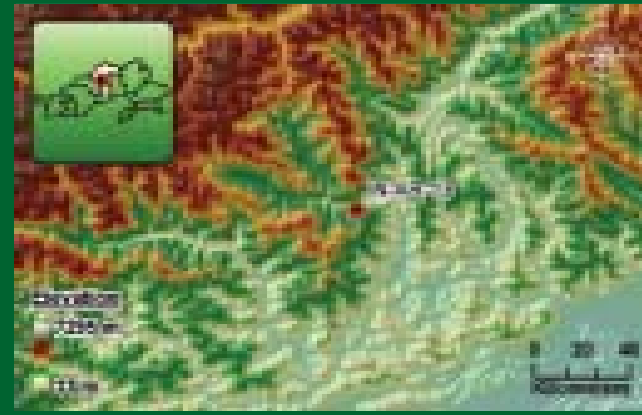
### KEY CONTRIBUTOR

Anwaruddin Choudhury

### KEY REFERENCES

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## MECHUKA - MONIGONG - JORGGING



<b>IBA Site code</b>	: IN-AR-13
<b>State</b>	: Arunachal Pradesh
<b>District</b>	: West and Upper Siang
<b>Coordinates</b>	: 28° 30' 00" N, 94° 30' 00" E
<b>Ownership</b>	: Community
<b>Area</b>	: c. 2,50,000 ha
<b>Altitude</b>	: 1,300 - > 5,000 m
<b>Rainfall</b>	: >2,000 mm
<b>Temperature</b>	: 0 °C to 25 °C
<b>Biogeographic Zone</b>	: Himalaya
<b>Habitats</b>	: Sub-tropical Broadleaf Hill, Sub-tropical Pine Forest, Sub-Alpine Forest, Alpine Arid Pasture

**IBA CRITERIA:** A1 (Threatened Species), A2 (Endemic Bird Area 130: Eastern Himalayas)

**PROTECTION STATUS:** Not officially protected

### GENERAL DESCRIPTION

This large IBA covers the forests and snow-covered peaks of the Great Himalayas in the northern part of Arunachal Pradesh. It is also the easternmost limit of the Great Himalayas in India, and adjoins Namcha Barwa peak of Tibet. The site covers Mechuka, Monigong, Tato and Jorgging, extending to the Siang river near Tuting and Gelling near its 'great bend' where the river enters India.

This IBA is a source of many tributaries of the Siang river, including the Siyom. The area is entirely mountainous with a valley at Mechuka, which is excluded from the IBA, as it is inhabited. The vegetation type ranges from Subtropical Broadleaf and Sub-tropical Pine forest on the lower slopes and river gorges, to Sub-Alpine forest in the higher reaches. The tops and ridges of the Great Himalayas are covered with subalpine and alpine scrub, while the peaks are barren, and snow-capped for the greater part of the year (Choudhury 2003a).

A large part of this IBA is inaccessible, thus ensuring the existence of pristine wilderness to a great extent. This IBA has a long border with Tibet (China). Very few surveys were done in the area. Tuting was also visited by Dr. Sálím Ali (Gee 1964). Singh (1994) made mention of Migging-Pango-Tuting track, while there was a survey for tragopans in Monigong (Dipankar Ghose *pers. comm.* 2002). A rapid survey under IBCN was carried out in Mechuka-Tato in November 2002 (Choudhury 2003a).

### AVIFAUNA

At least 110 bird species have been listed but it is apparent that there may be more than 250. This large IBA with difficult terrain needs many surveys for a full assessment of its rich bird life. So far, the presence of five Vulnerable species has been confirmed. Blyth's Tragopan *Tragopan blythii* and Sclater's Monal *Lophophorus sclateri* occur widely, the Rufous-necked Hornbill *Aceros nipalensis* has been recorded only below Tato. The Beautiful Nuthatch *Sitta formosa* was sighted near Mechuka while an Eastern Imperial Eagle *Aquila heliaca* was spotted between Tuting and Gelling. The Red-breasted Hill-Partridge *Arborophila mandellii* was reported but needs confirmation (A. U. Choudhury *pers. comm.* 2003).

Although only four Restricted Range species were recorded during brief surveys, more species are likely to occur. Among the noteworthy species recorded were Temminck's Tragopan *Tragopan temminckii* and Upland Buzzard *Buteo hemilasius* in Mechuka, Golden Eagle *Aquila chrysaetos* between Tuting and Gelling, and a species new to India, the Blue-and-White Flycatcher *Cynoptila cyanomelana* (Choudhury 2003b).

The site lies in the Eastern Himalayas Endemic Bird Area (EBA 130) (Stattersfield *et al.* 1998). Out of the 21 species listed in this EBA, two have been seen in this IBA but there are chances that more species are found here.

Thanks to its altitudinal variation from 1,300 to 5,000 m, three biomes are found in this IBA: Biome 5: Eurasian High Montane; Biome 7: Sino-Himalayan Temperate Forest; and Biome 8: Sino-Himalayan Subtropical Forest.

#### Vulnerable

Eastern Imperial Eagle	<i>Aquila heliaca</i>
Blyth's Tragopan	<i>Tragopan blythii</i>
Sclater's Monal	<i>Lophophorus sclateri</i>
Rufous-necked Hornbill	<i>Aceros nipalensis</i>
Beautiful Nuthatch	<i>Sitta formosa</i>

#### Endemic Bird Area 130: Eastern Himalayas

Blyth's Tragopan	<i>Tragopan blythii</i>
Sclater's Monal	<i>Lophophorus sclateri</i>
Austen's Barwing	<i>Actinodura waldeni</i>
Beautiful Sibia	<i>Heterophasia pulchella</i>

### OTHER KEY FAUNA

Among the major mammals are the Snow Leopard *Uncia uncia*, Tiger *Panthera tigris*, Leopard *P. pardus*, Clouded leopard *Neofelis nebulosa*, Asiatic Black Bear *Ursus thibetanus*, Red Panda *Ailurus fulgens*, Musk Deer *Moschus chrysogaster* and Takin *Budorcas taxicolor* (Choudhury 2003c).

### LAND USE

- ☐ Forestry
- ☐ Agriculture



An early morning in the picturesque valley of Mechuka in northern Arunachal Pradesh.  
This IBA is a large wilderness and extends up to Tuting.



Photo: Anwaruddin Choudhury

AR-13

#### THREATS AND CONSERVATION ISSUES

- ☐ Proposed mega hydroelectric projects
- ☐ Poaching
- ☐ Collection of firewood
- ☐ Felling of trees

The major issue now is the massive hydroelectric projects proposed on the River Siang and its main tributary, the Siyom in the neighbourhood of this IBA. Poaching, including trapping of galliformes, is a big problem. Collection of firewood for domestic use and felling of trees are other major issues.

#### KEY CONTRIBUTORS

Anwaruddin Choudhury, Bikul Goswami, Hakim and Tape Mosing.

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AR-14

## MEHAO WILDLIFE SANCTUARY



<b>IBA Site Code</b>	: IN-AR-14
<b>State</b>	: Arunachal Pradesh
<b>District</b>	: Dibang Valley
<b>Coordinates</b>	: 28° 12' 30" N, 95° 49' 11" E
<b>Ownership</b>	: State
<b>Area</b>	: 28,150 ha
<b>Altitude</b>	: 400 - 3,560 m
<b>Rainfall</b>	: >2,500 mm
<b>Temperature</b>	: 0 °C to 30 °C
<b>Biogeographic Zone</b>	: Himalaya
<b>Habitats</b>	: Tropical Wet Evergreen, Sub-tropical Broadleaf Hill, Himalayan Wet Temperate, Sub-Alpine Moist Scrub

**IBA CRITERIA:** A1 (Threatened Species), A2 (Endemic Bird Area 130: Eastern Himalayas)

**PROTECTION STATUS:** Wildlife Sanctuary, established in December 1980

### GENERAL DESCRIPTION

The Sanctuary was named after the Mehao Lake. The terrain of the Sanctuary is hilly, clothed with tropical evergreen forests. The under-storey is also thickly covered with undergrowth. There are two major lakes inside the Sanctuary, Mehao and Sally. The Mehao lake (<200 ha) is situated at an altitude of 1,640 m and Sally (2 ha) is at 520 m. The Mehao Lake originated as a result of the 1950 earthquake.

Mehao WLS is thinly populated and most of the areas have not yet been named. There is only one all-weather road passing through the Sanctuary from Roing to Hunli (Chakraborty and Sen 1991). Topographically, the terrain is entirely hilly, varying in altitude from 400 m to 3,560 m. A number of perennial fast flowing streams drain the Sanctuary, notably the Iphipani, Eje, Eme, Aba and Difu.

The Sanctuary forms a part of the catchment area of the Brahmaputra river. Peaks above 2,000 m experience snowfall. The Sanctuary is located on the windward side of the Eastern Himalayas so it receives heavy rainfall both from the southwest and the northeast monsoons. It rains nearly half of the year (Chakraborty and Sen 1991). Areas converted due to *jhum* cultivation earlier, are being covered with bamboo and other secondary vegetation. Cane is common in humid areas.

### AVIFAUNA

At least 175 bird species have been recorded in this IBA (Katti *et al.* 1992). Among the threatened birds, Spotbill Pelican *Pelecanus philippensis* was recorded just outside the Sanctuary in 1994 (Choudhury 2000). White-winged Duck *Cairina scutulata* was also recorded from Mehao lake (Choudhury 1995).

The Deopani river in Mehao Wildlife Sanctuary is known for its flash floods. This IBA has a unique feature where one can drive through a good road from tropical rain forest to snow line (in winter) within two hours !

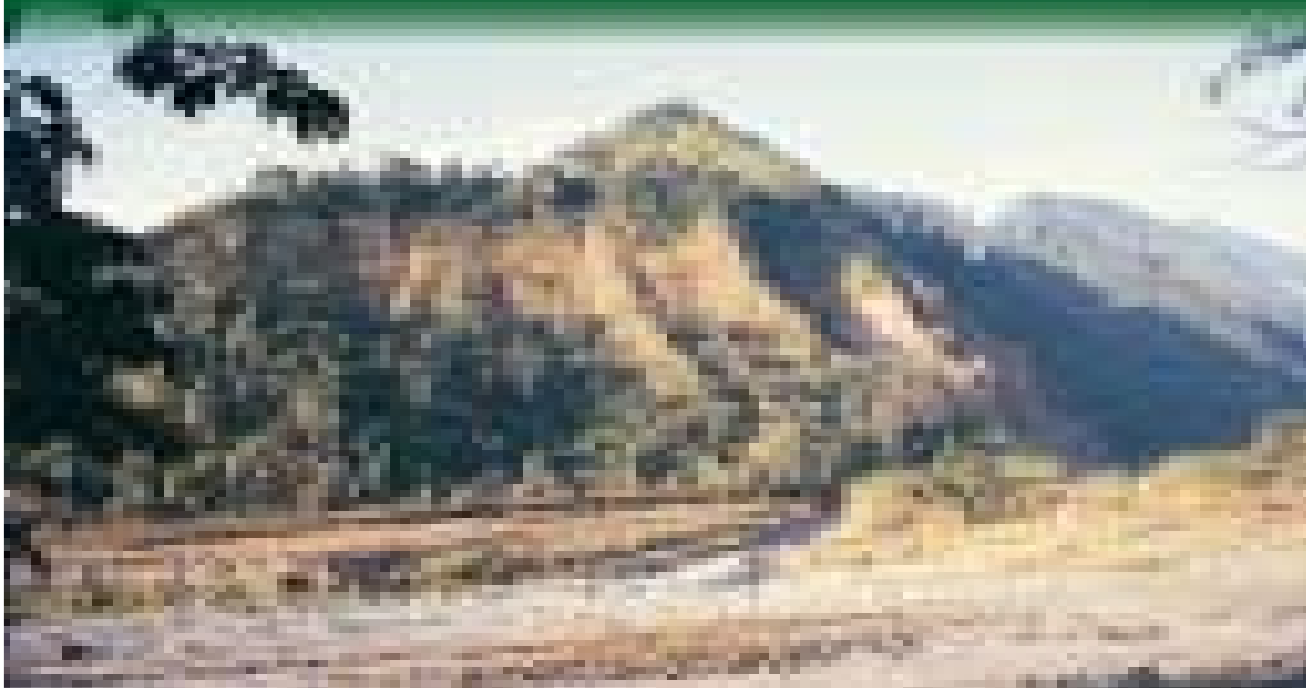


Photo: Anwaruddin Choudhury

The Wedge-billed Wren-Babbler *Sphenocichla humei*, a Restricted Range species, and one of the least known Indian species, has been recorded from this Sanctuary (Katti *et al.* 1992). It has been collected only three times in the last century, in 1905 by Stevens (1914), in 1938 by Lightfoot (1940) and in 1988 by Ripley *et al.* (1991). It occurs in two races: *humei* and *roberti*. Rasmussen and Anderton (*in press*) have elevated these races to full species: *Sphenocichla humei* and *Sphenocichla roberti*. This would qualify one or both for threatened status (BirdLife International 2001). Ali and Ripley (1987) have also considered both subspecies as very rare residents.

Stattersfield *et al.* (1998) have identified endemic bird areas (EBA) of the world and listed Restricted Range species found in each EBA. In the Eastern Himalayas EBA, 21 species are found in India, out of which 10 have been reported from this IBA. There are not many IBAs in this EBA where so many Restricted Range species are found.

Due to altitudinal variation from 400 m to 3,560 m, this site has three biomes: Biome 7 (Sino-Himalayan Temperate Forest), Biome-8 (Sino-Himalayan Subtropical Forest), Biome-9 (Indo-Chinese Tropical Moist Forest). A total of 60 biome species are found in this IBA but they are too many to list here.

Endangered	
White-winged Duck	<i>Cairina scutulata</i>
Rufous-necked Hornbill	<i>Aceros nipalensis</i>
Purple Wood-Pigeon	<i>Columba punicea</i>
Red-breasted Hill-Partridge (?)	<i>Arborophila mandellii</i>
Blyth's Tragopan	<i>Tragopan blythii</i>
Near Threatened	
Wedge-billed Wren- Babbler	<i>Sphenocichla humei</i>
Endemic Bird Area 130: Eastern Himalayas	
Red-breasted Hill-Partridge (?)	<i>Arborophila mandellii</i>
Blyth's Tragopan	<i>Tragopan blythii</i>
Wedge-billed Wren-Babbler	<i>Sphenocichla humei</i>
Austen's Barwing (?)	<i>Actinodura waldeni</i>
Brown-throated Tit-Babbler	<i>Alcippe ludlowi</i>
Beautiful Sibia	<i>Heterophasia pulchella</i>
White-naped Yuhina	<i>Yuhina bakeri</i>
Black-browed Leaf- Warbler	<i>Phylloscopus cantator</i>
Broad-billed Flycatcher-Warbler	<i>Tickellia hodgsoni</i>

#### OTHER KEY FAUNA

Chakraborty and Sen (1991) have recorded 66 mammals from this IBA site. Five primates have been recorded, of which Capped Langur *Trachypithecus pileatus* and Slow Loris *Nycticebus coucang* are uncommon (Chakraborty and Sen 1991). Red Panda *Ailurus fulgens* is found at higher elevations only. Seven species of Felids are reported, including the Snow Leopard *Uncia uncia*, which is only a winter visitor. Sinha (1984) has reported the Clouded Leopard *Neofelis nebulosa*, but Chakraborty and Sen

(1991) could not confirm it during their survey. Marbled Cat *Pardofelis marmorata* is extremely rare in this IBA.

Not much information is available on reptiles and amphibians.

#### LAND USE

- ☐ Nature reserve
- ☐ Tourism and recreation
- ☐ Agriculture (*Jhum*)

#### THREATS AND CONSERVATION ISSUES

- ☐ Encroachment
- ☐ Timber operation
- ☐ Occasional poaching
- ☐ Road construction and maintenance.

Human pressure seems negligible at this stage. Though the terrain is rugged, human pressure may increase in future after construction of a road to the Sanctuary and due to its being close to Roing town. Occasional hunting in the Sanctuary and *jhum* cultivation on the fringes are prevalent.

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Kulojyoti Lakhar, Anwaruddin Choudhury and Madhusan Katti

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## MOULING NATIONAL PARK



<b>IBA Site Code</b>	: IN-AR-15
<b>State</b>	: Arunachal Pradesh
<b>District</b>	: Upper, East and West Siang districts
<b>Coordinates</b>	: 28° 32' 27" N, 94° 45' 56" E
<b>Ownership</b>	: State
<b>Area</b>	: 48,300 ha
<b>Altitude</b>	: 750 - 3,064 m
<b>Rainfall</b>	: >2,300
<b>Temperature</b>	: 0 °C to 30 °C
<b>Biogeographic Zone</b>	: Himalaya
<b>Habitats</b>	: Tropical Evergreen, Tropical Semi-evergreen, Sub-tropical and Temperate Broadleaf, Conifer, Bamboo brakes and secondary forest

**IBA CRITERIA:** A1 (Threatened Species), A2 (Endemic Bird Area 130: Eastern Himalayas)

**PROTECTION STATUS:** National Park, established in December 1986

### GENERAL DESCRIPTION

Mouling NP is located in the Adi Hills of the Eastern Himalayas, adjoining the Siang River Valley. The area is c. 175 km from Pasighat, the district headquarters. The headquarters of this Park is located at Jengging. The terrain is wholly rugged and mountainous, and the Siang river is an imposing feature of the landscape, carving through high, rugged mountains. The steep slopes are well drained by a number of streams flowing swiftly down to the deep valley of Siang.

The entire Park is intersected with numerous rivers and rivulets which ultimately join the Siyom and Siang rivers. Other important rivers are Siring, Subong, Kro bong and Semong, which originate from the Park.

The forests of the area can be divided into the following categories: Tropical Evergreen, Tropical Semi-evergreen, Sub-tropical and Temperate Broadleaf and Conifer, Bamboo brakes and secondary forest.

### AVIFAUNA

This site is extremely rich in bird diversity. The combined lists of Katti *et al.* (1992), Haridasan *et al.* (1999) and Birand and Pawar (2001) total about 225 bird species.

The most notable among birds is the Red-breasted or Chestnut-breasted Partridge *Arborophila mandellii*. This species had not been sighted for a long time, in its entire range of distribution. Surprisingly, the bird was fairly common during a study in April 1995 by the State Forest Research Institute and Forest Department of Arunachal Pradesh at the periphery of Mouling National Park near Seet (Haridasan *et al.* 1999). Singh (1999) in March 1998, heard it very often near Seet at about 1,650 m in Subtropical Broadleaf Hill Forest with dense bamboo undergrowth. Due to its small, apparently fragmented population, it is considered Vulnerable (BirdLife International 2001).

In March 1998, a group of more than six Wedge-billed Wren-Babblers *Sphenocichla humei* was seen near Seet in Subtropical Forest with bamboo undergrowth at 1,635 m (Singh 1999). The birds were black underneath, pointing to subspecies *S. h. humei*. Rasmussen and Anderton (*in press*) have elevated these subspecies to full species status: *Sphenocichla humei* and *Sphenocichla roberti*. This would qualify one or both for threatened status (BirdLife

International 2001). Ali and Ripley (1987) have also considered both subspecies as "very rare resident": *S. humei humei* is found in Sikkim and Arunachal Pradesh, while BirdLife International (2001) has included West Bengal also in its distribution.

This site comes under the Eastern Himalayas Endemic Bird Areas (Stattersfield *et al.* 1998). Of the 21 species of this EBA, nine have been found at Mouling National Park.

Vulnerable	
Red-breasted Hill-Partridge	<i>Arborophila mandellii</i>
Blyth's Tragopan	<i>Tragopan blythii</i>
Rufous-necked Hornbill	<i>Aceros nipalensis</i>
Rusty-bellied Shortwing	<i>Brachypteryx hyperythra</i>
Beautiful Nuthatch	<i>Sitta formosa</i>
Near Threatened	
Rufous-throated Wren-Babbler	<i>Spelaornis caudatus</i>
Wedge-billed Wren-Babbler	<i>Sphenocichla humei</i>
Endemic Bird Area 130: Eastern Himalayas	
Red-breasted Hill-Partridge	<i>Arborophila mandellii</i>
Blyth's Tragopan	<i>Tragopan blythii</i>
Rusty-bellied Shortwing	<i>Brachypteryx hyperythra</i>
Rufous-throated Wren-Babbler	<i>Spelaornis caudatus</i>
Wedge-billed Wren-Babbler	<i>Sphenocichla humei</i>
Beautiful Sibia	<i>Heterophasia pulchella</i>
White-naped Yuhina	<i>Yuhina bakeri</i>
Black-browed Leaf-Warbler	<i>Phylloscopus cantator</i>
Broad-billed Flycatcher-Warbler	<i>Tickellia hodgsoni</i>

Two biomes are represented in this IBA: Biome-7 (Sino-Himalayan Temperate Forest) and Biome-8 (Sino-Himalayan Subtropical Forest). A small part, mainly below 1,000 m, comes under Biome 9 (Indo-Chinese Tropical Moist Forest). BirdLife International has listed 112 species in Biome-7, out of which 14 are found. This site appears to be a very good representation of Sino-Himalayan Subtropical Forest as 40 out of 96 biome species are found here. The Indo-Chinese Tropical Moist Forest (Biome-9) that has only 19 species listed is represented by six at this site. It is not possible to list all the species here but the interesting species are: Common Hill-Partridge *Arborophila torquolea*,

Rufous-throated Hill-Partridge *A. rufogularis*, Long-tailed Thrush *Zoothera dixonii*, Grey-cheeked Flycatcher-Warbler *Seicercus poliogenys*, White-spectacled Flycatcher-Warbler *Seicercus affinis*, Rufous-faced Flycatcher-Warbler *Abroscopus albogularis*, Black-faced Flycatcher-Warbler *A. schisticeps*, Maroon-backed Accentor *Prunella immaculata*, Black-backed Forktail *Enicurus immaculatus*, Lesser Necklaced Laughingthrush *Garrulax monileger*, Greater Necklaced Laughingthrush *G. pectoralis*, Rufous-necked Laughingthrush *G. ruficollis* and Sultan Tit *Melanochlora sultanea*.

#### OTHER KEY FAUNA

The area has a very rich biodiversity. Among the mammals Tiger *Panthera tigris*, Leopard *P. pardus*, Red Panda *Ailurus fulgens*, Goral *Nemorhaedus goral*, Serow *Nemorhaedus sumatraensis* and Takin *Budorcas taxicolor* are noteworthy (Haridasan *et al.* 1999). The other mammals found in the area are Assamese Macaque *Macaca assamensis*, Capped Langur *Trachypitecus pileatus*, Leopard Cat *Prionailurus bengalensis*, Small Indian Civet *Viverricula indica*, Himalayan Palm Civet *Paguma larvata*, Spotted Linsang *Prionodon pardicolor*, Indian Wild Dog *Cuon alpinus* and Asiatic Black Bear *Ursus thibetanus*.

A total number of 24 species of amphibians and 39 species of reptiles, of which 14 are lizards have been reported from this IBA (Pawar and Birand 2001). Some of the interesting species of amphibians and reptiles are: Boettger's Xenophrys *Xenophrys boettgeri*, North-western Trickle Frog *Occydozyga borealis* and Pied Theloderma *Theloderma asperum* (Pawar and Birand 2001).

#### LAND USE

- ☐ Forestry
- ☐ Tourism
- ☐ Nature conservation and research

#### THREATS AND CONSERVATION ISSUES

- ☐ Poaching
- ☐ Increasing human dependence on natural resources

Current level of human use appears to be negligible. Occasional forays for hunting made by local people who have better access to the area by virtue of the location of their village (e.g. Bomdo) appear to be the only human disturbance. The majority of people are dependent on *jhum* cultivation and forest resources (Birand and Pawar 2001).

#### KEY CONTRIBUTORS

Kulojyoti Lahkar, K. Haridasan and A. Birand.

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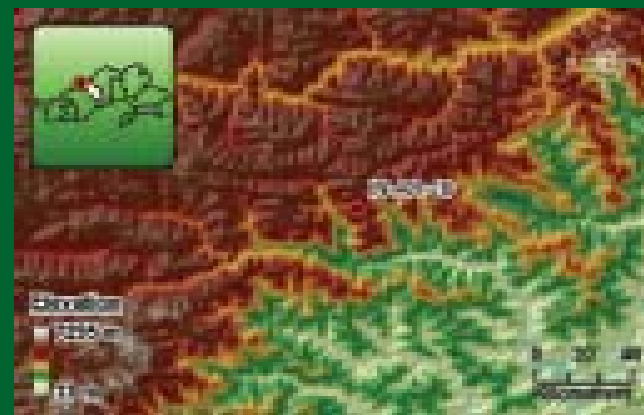
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*Jhum* cultivation outside Mouling National Park. Such shifting cultivation has already destroyed many forest areas across Arunachal Pradesh and also in other northeastern States.



Photo: Anwaruddin Choudhury

## NACHO-LIMEKING-TAKSING-MAJHA



<b>IBA Site Code</b>	: IN-AR-16
<b>State</b>	: Arunachal Pradesh
<b>District</b>	: Upper Subansiri
<b>Coordinates</b>	: 28° 34' 60" N, 93° 31' 00" E
<b>Ownership</b>	: Private land
<b>Area</b>	: c. 2,00,000 ha
<b>Altitude</b>	: 800 - 4,500 m
<b>Rainfall</b>	: 1,500 mm
<b>Temperature</b>	: 0 °C to 28 °C
<b>Biogeographic Zone</b>	: Himalaya
<b>Habitats</b>	: Tropical Wet Evergreen, Sub-tropical Broadleaf Hill Forest, Temperate Broadleaf, Conifer, and Sub-Alpine Scrub

**IBA CRITERIA:** A1 (Threatened Species), A2 (Endemic Bird Area 130: Eastern Himalayas)

**PROTECTION STATUS:** Not officially protected

### GENERAL DESCRIPTION

Nacho-Limeking-Taksing-Majha is a large area in the north of Arunachal Pradesh in Upper Subansiri district, close to Indo-China (Tibet) border. The area is largely mountainous with a number of peaks rising over 4,000 m. The River Subansiri, which originates in Tibet flows through this IBA. Also the area is criss-crossed by number of streams and small rivers that drain into the Subansiri. Most of the forest is inaccessible and still untouched. Road network is limited and the remoteness of the site has left a large extent of habitat intact. Local inhabitants are largely of the *Tagin* tribe and human settlements are very minimal.

In the lower reaches, below 1,500 m, elements of Tropical Wet Evergreen to Subtropical Broadleaf Forests are found. Himalayan Wet Temperate Forest, mixed with Bamboo and Cane, is found in the intermediate elevations from 1,500 to 3,000 m.

### AVIFAUNA

Not much information is available on the bird life, except for the general report of Singh (1994) in which he has described birds during his various surveys of the state. However, site-wise detailed lists are not available.

A significant discovery from this area is a new monal species of the genus *Lophophorus*. The males of the new monal appeared very similar to the male of Sclater's Monal *Lophophorus sclateri*, except for the completely white tail in the former. This was reported by local hunters of the Sarli Circle in Lower Subasiri district who also go for hunting to the Taksing area (Kumar and Singh 1999).

An interesting record of Honeyguide *Indicator xanthonotus*, one of the two records of this species in the state is from here (R. Suresh Kumar *pers. comm.* 2003 )

Of the 21 species found in the Eastern Himalayas Endemic Bird Area (Stattersfield *et al.* 1998) 12 have been reported from this IBA. There are not many IBAs in this EBA where so many Restricted Range species are found.

Four biomes are represented in this IBA: Biome-5 (Eurasian High Montane- Alpine and Tibetan); Biome-7 (Sino-Himalayan Temperate Forest); Biome-8 (Sino-Himalayan Subtropical Forest); and Biome-9 (Indo-Chinese Tropical Moist Forest). It is not possible to list all the species here.

#### Vulnerable

Red-breasted Hill-Partridge (?)	<i>Arborophila mandellii</i>
Sclater's Monal	<i>Lophophorus sclateri</i>
Rufous-necked Hornbill	<i>Aceros nipalensis</i>
Rusty-bellied Shortwing (?)	<i>Brachypteryx hyperythra</i>
Mishmi Wren-Babbler	<i>Spelaornis badeigularis</i>
Beautiful Nuthatch	<i>Sitta formosa</i>

#### Near Threatened

Ward's Trogon (?)	<i>Harpactes wardi</i>
Wedge-billed Wren-Babbler	<i>Sphenocichla humei</i>

#### Endemic Bird Area 130: Eastern Himalayas

Red-breasted Hill-Partridge (?)	<i>Arborophila mandellii</i>
Sclater's Monal	<i>Lophophorus sclateri</i>
Ward's Trogon (?)	<i>Harpactes wardi</i>
Rusty-bellied Shortwing (?)	<i>Brachypteryx hyperythra</i>
Mishmi Wren-Babbler	<i>Spelaornis badeigularis</i>
Wedge-billed Wren-Babbler	<i>Sphenocichla humei</i>
Beautiful Sibia	<i>Heterophasia pulchella</i>
Austen's Barwing (?)	<i>Actinodura waldeni</i>
Brown-throated Tit-Babbler	<i>Alcippe ludlowi</i>
White-naped Yuhina	<i>Yuhina bakeri</i>
Black-browed Leaf-Warbler	<i>Phylloscopus cantator</i>
Broad-billed Flycatcher-Warbler	<i>Tickellia hodgsoni</i>

### OTHER KEY FAUNA

Not much information is available on the fauna of this large area. However, Takin *Budorcas taxicolor*, Serow *Nemorhaedus sumatraensis*, Goral *N. goral*, Red Panda *Ailurus fulgens*, Capped Langur *Trachypithecus pileatus* and Assamese Macaque *Macaca assamensis* have been recorded (A. U. Choudhury *pers. comm.* 2003).

The Bharal or Blue Sheep *Pseudois nayaur* was recently recorded from the Taksing area (R. Suresh Kumar *pers. comm.* 2003), which was also recorded in other areas like West Kameng, East Kameng, Upper Dibang Valley, etc.

**LAND USE**

- ☐ Forestry
- ☐ Agriculture

The Red Panda *Ailurus fulgens* is one of the most popular animals due to its innocent looks and antics.



Photo: Anwaruddin Choudhury

**THREATS AND CONSERVATION ISSUES**

- ☐ Hunting
- ☐ Felling of trees

The proposed Upper Subansiri Hydroelectric project will have some impact on these sites (A. U. Choudhury *pers. comm.* 2003). Hunting is a major threat to the wildlife in the area and species such as Musk Deer, Asiatic Black Bear *Ursus thibetanus*, Sclater's Monal *Lophophorus sclateri* and Temminck's Tragopan *Tragopan temminckii* are much sought after (R. Suresh Kumar *pers. comm.* 2003).

**KEY CONTRIBUTORS**

R. Suresh Kumar, Pratap Singh, Bharat Bhushan Bhatt and Anwaruddin Choudhury

**KEY REFERENCES**

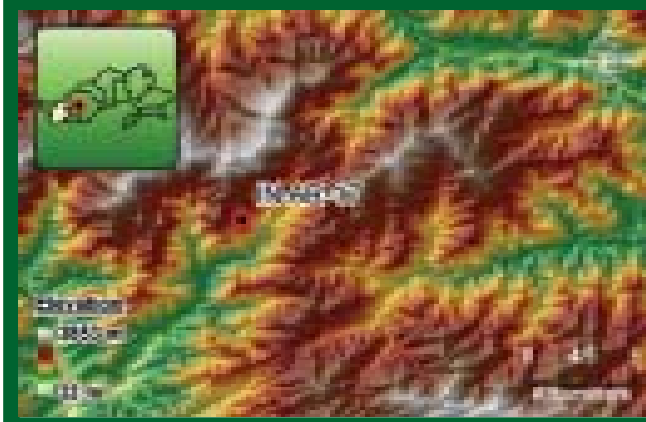
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AR-17

## NAFRA-LADA AREA



<b>IBA Site Code</b>	: IN-AR-17
<b>State</b>	: Arunachal Pradesh
<b>District</b>	: West Kameng, East Kameng
<b>Coordinates</b>	: 27° 46' 24" N, 93° 10' 05" E
<b>Ownership</b>	: Unclassified State Forest, Private land, Community land
<b>Altitude</b>	: 600 m – 5,000 m
<b>Rainfall</b>	: Not available
<b>Temperature</b>	: Not available
<b>Area (ha)</b>	: Not available
<b>Biogeographic Zone</b>	: Himalaya
<b>Habitats</b>	: Sub-tropical Broadleaf Hill, Sub-tropical Pine Forest, Sub-Alpine Dry Scrub, Alpine Dry Pasture, Alpine Arid Pasture

**IBA CRITERIA:** A1 (Threatened Species), A2 (Endemic Bird Area 130: Eastern Himalayas)

**PROTECTION STATUS:** Not officially protected

### GENERAL DESCRIPTION

This IBA extends from the Nafra locality in West Kameng district to the Lada border post in East Kameng district, in the remote interior areas of Arunachal Pradesh. It is largely montane, and access to most parts is possible only on foot. The IBA is bordered to the north by the snow-covered peaks of the Great Himalayan Range from which the Kameng, a major river of the State originates. Due to its remoteness, the habitat is still intact; and the forests, especially in the interior, are untouched and pristine. Human habitations and *jhum* (slash-and-burn) cultivation is minimal, and mostly restricted to areas below 1,800 m.

### AVIFAUNA

The avifauna of this IBA has not been recorded completely. During a preliminary short survey, about 85 bird species were recorded.

The proposed new subspecies of Sclater's monal *Lophophorus sclateri*, that was discovered in the neighbouring Lower Subansiri district (Kumar and Singh 1999), also occurs here. This subspecies is restricted to the interior areas in the western part of the state and is likely to be endemic to India. Two species of tragopans, Temminck's Tragopan *Tragopan temminckii* and the threatened Blyth's Tragopan *T. blythii* occur in the area (Kumar 2003). Rufous-necked Hornbill *Aceros nipalensis*, another globally threatened species (BirdLife International 2001), is also found in the lower areas (Choudhary 2002).

This site lies in the Eastern Himalayas Endemic Bird Areas (Stattersfield *et al.* 1998). Of the 21 species of this EBA, eight may be found in the area.

Due to altitudinal variation from 600 m to 5,000 m, four biomes are represented in this IBA: Biome-9 (Indo-Chinese Tropical Moist Forests) below 1,000 m; Biome-8 (Sino-Himalayan Subtropical Forest) between 1,000 m to 2,000 m; Biome-7 (Sino-Himalayan Temperate Forest) between 1,800 m to 3,600 m; and Biome-5 (Eurasian High Montane) above 3,600 m. As a complete checklist is not available, it is difficult to say how many different Biome-restricted species are found at this site. However, looking at the intact forests, the list would be quite long.

Red-headed Trogon *Harpactes erythrocephalus* is resident bird in Northeast.



Photo: Ketil Knudsen / Peter Lobo

#### Vulnerable

Red-breasted Hill-Partridge (?)	<i>Arborophila mandellii</i>
Blyth's Tragopan	<i>Tragopan blythii</i>
Sclater's Monal	<i>Lophophorus sclateri</i>
Rufous-necked Hornbill	<i>Aceros nipalensis</i>
Beautiful Nuthatch	<i>Sitta formosa</i>

#### Endemic Bird Area 130: Eastern Himalayas

Red-breasted Hill-Partridge (?)	<i>Arborophila mandellii</i>
Blyth's Tragopan	<i>Tragopan blythii</i>
Sclater's Monal	<i>Lophophorus sclateri</i>
Hoary-throated Barwing (?)	<i>Actinodura nipalensis</i>
Beautiful Sibia	<i>Heterophasia pulchella</i>
White-naped Yuhina	<i>Yuhina bakeri</i>
Black-browed Leaf-Warbler	<i>Phylloscopus cantator</i>
Broad-billed Flycatcher-Warbler (?)	<i>Tickellia hodgsoni</i>



The Great Himalayas beyond Nafra-Lada area. This large wilderness does not have any motorable road and is largely uninhabited.



Photo: Arwanuddin Choudhury

#### OTHER KEY FAUNA

Other important wildlife in the area includes the little known mountain goat Takin *Budorcas taxicolor*, Serow *Nemorhaedus sumatraensis*, Goral *Nemorhaedus goral*, Musk Deer *Moschus chrysogaster*, Red Panda *Ailurus fulgens*, Asiatic Black Bear *Ursus thibetanus*, Clouded Leopard *Neofelis nebulosa* and Temminck's Golden Cat *Catopuma temminckii* (Choudhary 2002). Takin and Musk Deer are the most sought after by hunters in the area. Little is known about the Himalayan species of reptiles and amphibians that may occur here. The rivers and streams abound with a variety of fish, many of them migratory.

#### LAND USE

- ☐ Forestry
- ☐ Agriculture

#### THREATS AND CONSERVATION ISSUES

- ☐ Hunting
- ☐ *Jhum* cultivation

This site is important as it holds some little known threatened mammals and birds, and has not been adequately explored floristically. Projects relating to illegal trade in wildlife and the conservation of species such as the Musk Deer need to be taken up in this area.

There is no commercial logging in this IBA mainly due to the lack of roads. Habitat loss due to *jhum* cultivation, however, is a serious threat, but it is restricted to areas below 1,800 m. Close to Nafra locality, primary forests have been lost to *jhum*, and the

abandoned areas have now been taken over by Blue Pine *Pinus wallichii* plantations. In East Kameng district, *jhum* cultivation is intensive and in some areas the mountain slopes are completely barren. Hunting, as in the rest of the State, is widespread and bird species such as Monal and Tragopan are sought after for their skins and feathers, which are in great demand. Among mammals, Musk Deer and Black Bear are most sought after for valuable body parts. The rivers and streams are regularly dynamited for fish.

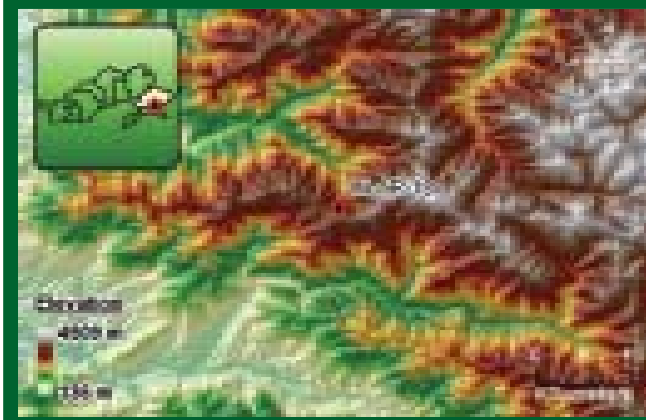
#### KEY CONTRIBUTOR

R. Suresh Kumar

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## NAMDAPHA – KAMLANG



<b>IBA Site Code</b>	: IN-AR-18
<b>Administrative Region</b>	: Arunachal Pradesh
<b>District</b>	: Changlang and Lohit
<b>Coordinates</b>	: 27° 38' 30" N, 96° 37' 45" E
<b>Ownership</b>	: State
<b>Area</b>	: 4,57,582 ha
<b>Altitude</b>	: 200 – 4,578 m
<b>Rainfall</b>	: 2,500 – 3,500 mm
<b>Temperature</b>	: 0 °C to 32 °C
<b>Biogeographic Zone</b>	: Himalaya
<b>Habitats</b>	: Tropical Wet Evergreen Forest, Sub-Tropical Broadleaf, Temperate Broadleaf and Conifer, Sub-Alpine Scrub, Alpine Scrub

**IBA CRITERIA:** A1 (Threatened Species), A2 (Endemic Bird Area 130: Eastern Himalayas)

**PROTECTION STATUS:** Namdapha National Park, established in May 1983;  
Kamlang Wildlife Sanctuary, established in 1989.

### GENERAL DESCRIPTION

The Namdapha National Park (1,98,500 ha) and Kamlang Wildlife Sanctuary (1,80,782 ha) and Kamlang Reserve Forest (78,300 ha) are situated at the southeastern tip of Arunachal Pradesh and bounded by the international boundary with Myanmar to the south and east. Namdapha lies in Changlang district, and Kamlang in Lohit. The Namdapha was declared as a wildlife sanctuary in 1972 and declared as a tiger reserve in March 1983 followed by a notification as a national park on 9 June 1983. Namdapha has been proposed as a biosphere reserve also. A part of Kamlang RF was declared as a Wildlife Sanctuary in 1989. First mention of this area is found in Gee (1964) who described this tract as 'Tirap Frontier Tract Nation Park'. Gee believed that this tract was a biodiversity hotspot.

Namdapha comprises the catchment of the Noa-Dihing river, a tributary of the River Brahmaputra. The Noa-Dihing originates in the mountains on the India-Myanmar border and flows westwards through the Park before joining the Lohit and Brahmaputra rivers in the Assam Valley. The Kamlang is drained by rivers which are tributaries of the Lohit river. The entire area is mountainous.

Lakes, locally known as 'beels', are scattered throughout the area and attract migratory waterfowl. Also in abundance are salt licks or 'pungs', of which Bulbulia is famed for its congregations of Asian Elephants and other large mammals. Details of the geology and topography are given by Ghosh (1987). The largest lake is Glao in Kamlang WLS. This 50 ha wetland is a major haunt of waterfowl (Choudhury 2002).

The Dapha bum (bum = ridge), the highest point in this IBA, separates Namdapha from Kamlang. This IBA is a continuous stretch of virgin forest and harbours perhaps the most diverse assemblage of species in India.

Due to great altitudinal variation, diverse habitat occurs in the area, from tropical Wet Evergreen in the lower areas to subtropical and temperate forests in the higher mountains. In the Dapha Bum area, it is subalpine and alpine scrub.

The geography of the area is dominated by the Dapha bum and the river valleys of the Noa-Dihing and its tributary, the Namdapha. The terrain is rugged with hardly any flat area outside the flood plains of the two rivers (Athreya *et al.* 1997)

Namdapha, which is also a tiger reserve, does not have any resident human population within its boundaries. However, there are two small hamlets inside Kamlang WS. The dominant tribes around Namdapha are the Singphos, Tangsas, Lisis and Chakmas while around Kamlang there are Miju Mishmis.

The climate is tropical and subtropical, with a distinct cold season from December to February. Temperature varies from 5 °C to 35 °C at lower altitudes and drops to below freezing point at higher altitudes. July and August are the warmest months. Mean annual precipitation varies from 2,500 mm to 3,500 mm, 75% of which falls between April and October, during the southwest monsoon. The rest is received from the northeast monsoon from December to March (Chatterjee and Chandiramani 1986). According to Forest Department sources, the total annual precipitation is 6,300 mm (Ghosh 1987). It rains for almost 8 months a year, with only November as a really 'dry' month.

### AVIFAUNA

Namdapha-Kamlang is one of the most biologically diverse IBAs in India. Its avifauna is a unique blend of four biomes (Sino-Himalayan Temperate, Sino-Himalayan Subtropical, Indo-Chinese Tropical Moist Forests and Eurasian High Montane). About 450 bird species have been reported from Namdapha Tiger Reserve, including several globally threatened and Restricted Range species (Katti *et al.* 1992, Athreya *et al.* 1997, Singh 1999).

The Endangered White-bellied Heron *Ardea insignis* is regularly seen in Deban and Noa-Dihing river (300-450 m). Solitary individuals have been sighted by Alstrom *et al.* (1994), Athreya *et al.* (1997) and Choudhury (2000).

The White-winged Duck *Cairina scutulata* has been reported from the lower reaches of Namdapha (Choudhury 1996a). It has been seen at Ranijheel, Motijheel and Rajajheel (Choudhury 2002).

Stattersfield *et al.* (1998) have identified 21 Restricted Range species from the Eastern Himalayas. Till now, 11 of these species have been seen in Namdapha.

The Northeast is famous for its bird diversity and Namdapha-Kamlang IBA is one of the finest examples. Its thick forests contain 98 members of Family Muscicapidae (babblers, flycatchers, warblers and thrushes) (Athreya *et al.* 1997). Indeed, almost half the birds seen in Namdapha belonged to this family. Mixed hunting

parties containing several hundred birds of over 20 species have been reported (Athreya *et al.* 1997).

In the Eastern Himalayas, particular bird species tend to be present at lower altitude than in the Western Himalayas. Namdapha is one of the easternmost regions of India and the bird sightings by Athreya *et al.* (1997) further confirm this trend. Over 10% of the birds recorded by them were at lower altitude or even below the lowest altitude record of the species in India.

Many northeastern birds, uncommon or rarely seen elsewhere, are fairly common in Namdapha. For example, Grey Peacock Pheasant *Polyplectron bicalcaratum*, Wreathed Hornbill *Aceros undulatus*, Blue-naped Pitta *Pitta nipalensis*, Collared Treepie *Dendrocitta frontalis*, Large Scimitar Babbler *Pomatorhinus hypoleucos*, Streaked Wren-Babbler *Napothera brevicaudata*, Eye-browed Wren-Babbler *Napothera epilepidota*, Rufous-vented Laughingthrush *Garrulax gularis*, White-hooded Babbler *Gampsorhynchus rufulus*, Rufous-throated Fulvetta *Alcippe rufogularis*, Rufous-backed Sibia *Heterophasia annectans*, Beautiful Sibia *Heterophasia pulchella*, Green Cochoa *Cochoa viridis* and Black-breasted Thrush *Turdus dissimilis* are fairly widespread in the Park, but not necessarily easy to locate (Kazmierczak and Singh 1998). Rufous-necked Hornbill is unlikely to be missed in Kamlang (Choudhary 1996b).

#### OTHER KEY FAUNA

Namdapha and Kamlang are famous for their felines - they harbour three large, two medium and many smaller cats. Tiger *Panthera tigris* and Leopard *P. pardus* are found at lower and mid elevation, while above 3,000 m, the Snow Leopard *Uncia uncia* is reported (unconfirmed). The rare Clouded Leopard *Neofelis nebulosa* is also found. 96 species of mammals have been recorded from this IBA. There are not many IBAs in India where so many mammals species are seen. Athreya *et al.* (1997) found six species of non-human primates, excluding Slow Loris *Nycticebus coucang* reported. The largest population of Hoolock Gibbon *Hylobates hoolock* in India is found in this IBA (A. U. Choudhury *pers. comm.* 2003).

Recently, Captain (2000) reported 117 species snakes and three legless lizards within a 2½ month survey in Namdapha. Two of the snakes (*Trimeresurus medoensis* and *Amphiesma venningi*) are first records from India.

#### LAND USE

- ☐ Forestry
- ☐ Nature conservation
- ☐ Agriculture including *jhum*

#### THREATS AND CONSERVATION ISSUES

- ☐ Poaching
- ☐ Encroachment
- ☐ Felling of trees
- ☐ *Jhum* cultivation
- ☐ Proposed hydel project on Noa Dihing river.
- ☐ Habitat fragmentation

This large IBA is quite remote, largely inaccessible and uninhabited. Most of the forest is largely untouched. The abundance of forest resources around the area fulfils the needs of the people. However, Namdapha is now coming under increasing pressure due to encroachment on its eastern side. Insurgency is another big problem for the administration of the Park. Population pressure is increasing on the western boundary also, on the northern bank of Nao Dihing river where Chakma tribals have settled. On the eastern fringe, the Lisu tribe, a predominantly hunter-gatherer community, periodically enters the Park from settlements in Myanmar and exerts pressure. Kamlang is relatively free from such threats.

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Ramana M. Athreya, Kulojyoti Lakhar, Anwaruddin Choudhury, Ashok S. Captain and Manju Menon

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Critically Endangered	
Slender-billed Vulture	<i>Gyps tenuirostris</i>
Endangered	
White-bellied Heron	<i>Ardea insignis</i>
White-winged Duck	<i>Cairina scutulata</i>
Vulnerable	
Greater Spotted Eagle	<i>Aquila clanga</i>
Blyth's Tragopan	<i>Tragopan blythii</i>
Mrs Hume's Pheasant	<i>Syrmaticus humiae</i>
Rufous-necked Hornbill	<i>Aceros nipalensis</i>
Rusty-bellied Shortwing	<i>Brachypteryx hyperythra</i>
Austen's Babbler	<i>Stachyris oglei</i>
Beautiful Nuthatch	<i>Sitta formosa</i>
Near Threatened	
White-cheeked Hill-Partridge	<i>Arborophila atrogularis</i>
Ward's Trogon	<i>Harpactes wardi</i>
Great Pied Hornbill	<i>Buceros bicornis</i>
Brown Hornbill	<i>Anorrhinus tickelli</i>
Wedge-billed Wren- Babbler	<i>Sphenocichla humei</i>
Endemic Bird Area 130: Eastern Himalayas	
Blyth's Tragopan	<i>Tragopan blythii</i>
Ward's Trogon	<i>Harpactes wardi</i>
Rusty-bellied Shortwing	<i>Brachypteryx hyperythra</i>
Wedge-billed Wren- Babbler	<i>Sphenocichla humei</i>
Austen's Babbler	<i>Stachyris oglei</i>
Austen's Barwing	<i>Actinodura waldeni</i>
Brown-Throated Tit- Babbler	<i>Alcippe ludlowi</i>
Grey Sibia	<i>Heterophasia gracilis</i>
Beautiful Sibia	<i>Heterophasia pulchella</i>
White-naped Yuhina	<i>Yuhina bakeri</i>
Black-Browed Leaf- Warbler	<i>Phylloscopus cantator</i>
Broad-billed Flycatcher-Warbler	<i>Tickellia hodgsoni</i>

AR-18

The Noa-Dihing river cutting across rain forest in Namdapha National Park. Namdapha-Kamlang is an outstanding IBA.



Photo: Anwaruddin Choudhury

Choudhury, A. U. (1996b) Trekking through Kamlang. *Sanctuary Asia* 16 (5); 44-49

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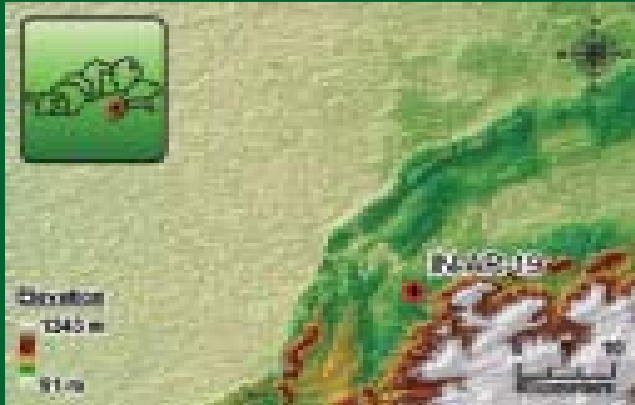
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## NAMSANGMUKH - BORDURIA



<b>IBA Site Code</b>	: IN-AR-19
<b>State</b>	: Arunachal Pradesh
<b>District</b>	: Tirap
<b>Coordinates</b>	: 27° 13' 00" N, 95° 30' 00" E
<b>Ownership</b>	: Community and government
<b>Altitude</b>	: 120 - 400 m
<b>Rainfall</b>	: 2,500 - 3,500 mm
<b>Temperature</b>	: 6 °C - 34 °C
<b>Area</b>	: Not available
<b>Biogeographic Zone</b>	: Himalaya
<b>Habitats</b>	: Tropical Wet Evergreen Forest

**IBA CRITERIA:** A1 (Threatened Species) , A2 (Endemic Bird Area 130: Eastern Himalayas)

**PROTECTION STATUS:** Not officially protected

### GENERAL DESCRIPTION

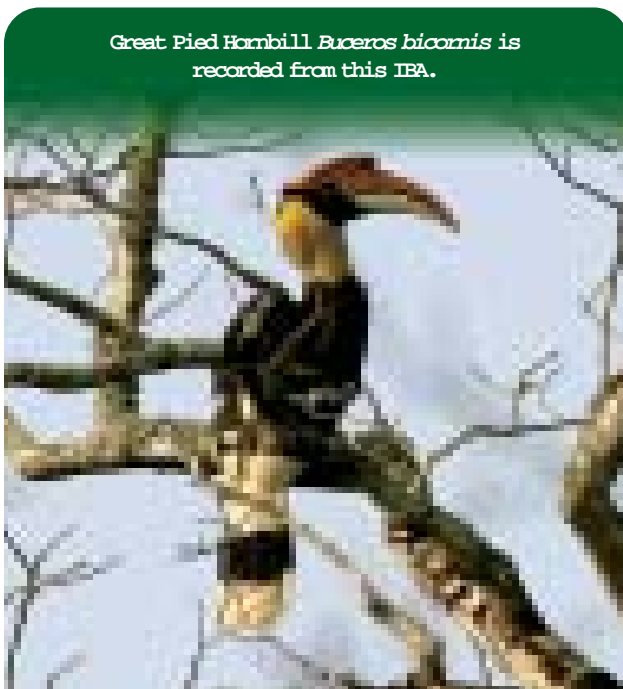
This large Tropical Wet Evergreen Forest area is little explored by scientists. It lies adjacent to Assam's Upper Dihing (West Block) and Joypur Reserve Forests. The forest is dominated by tall dipterocarps, especially Hollong (*Dipterocarpus macrocarpus*), which grows up to 50 m. The area is hilly, being part of Patkai Range, is known for the Endangered White-winged Duck *Cairina scutulata*.

### AVIFAUNA

Not much is known about the bird life, except for the presence of White-winged Duck (Choudhury 1996, 2002), a globally threatened species (BirdLife International 2001). According to Choudhury (*pers. comm.* 2003), a sizeable population of White-winged Duck occurs in this IBA. In 1993, two ducks were seen in a *nullah* (stream), about 0.5 km off the main road near Namsanmukh village, and later three birds in flight were spotted in the same environs.

The White-bellied Heron *Ardea insignis*, Pale-capped Pigeon *Columba punicea*, Rufous-necked Hornbill *Aceros nipalensis*, and Beautiful Nuthatch *Sitta formosa*, all globally threatened, were seen in the neighbouring Joypur Reserve Forest by Mridupaban Phukan (*pers. comm.* to Kulojyoti Lahkar).

A checklist of the birds of this IBA is not available, but judging from the extant habitat, there could be 250 to 300 species, including many Restricted Range and Biome species. The area comes under Eastern Himalayas Endemic Bird Area (Stattersfield *et al.* 1998) and Biome-9 (Indo-Chinese Tropical Moist Forest) (BirdLife International, undated).



Endangered	
White-bellied Heron	<i>Ardea insignis</i>
White-winged Duck	<i>Cairina scutulata</i>
Vulnerable	
Purple Wood-Pigeon	<i>Columba punicea</i>
Rufous-necked Hornbill	<i>Aceros nipalensis</i>
Beautiful Nuthatch	<i>Sitta formosa</i>
Near Threatened	
Darter	<i>Anhinga melanogaster</i>
White-cheeked Hill-Partridge	<i>Arborophila atrogularis</i>
Great Pied Hornbill	<i>Buceros bicornis</i>
Brown Hornbill	<i>Anorrhinus tickelli</i>
Endemic Bird Area 130: Eastern Himalayas	
Black-Browed Leaf-Warbler	<i>Phylloscopus cantator</i>

### OTHER KEY FAUNA

There has been no detailed study on the mammalian and reptilian fauna of this site, but incidental data reveals that Asian Elephant *Elephas maximus*, Capped Langur *Trachypithecus pileatus*, Hoolock Gibbon *Hylobates hoolock*, Tiger *Panthera tigris*, Leopard *P. pardus*, Barking Deer *Muntiacus muntjak* and Sambar *Cervus unicolor*, Gaur *Bos frontalis*, Wild dog *Cuon alpinus*, Serrow *Nemorhaedus sumatraensis*, Temminck's Golden Cat *Catopuma temmincki* and five more species of primates are found. A Golden Cat was poached and its meat sold in 2003 (A. U. Choudhury *pers. comm.* 2003)

AR-19

Namsang-Borduria area is contiguous with Dihing-Patkai Wildlife Sanctuary of Assam and has rich tropical rain forest. Logging is a major problem in this IBA.

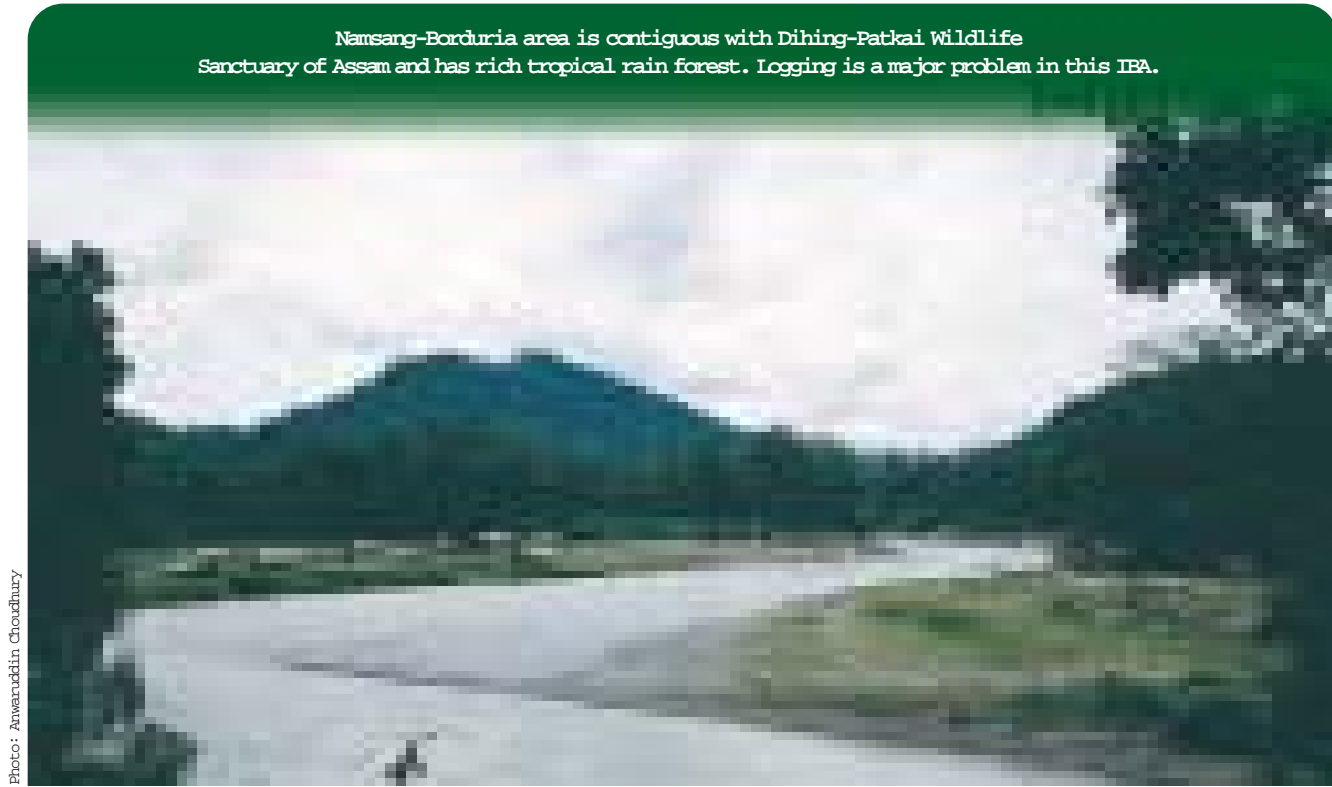


Photo: Anwaruddin Choudhury

#### LAND USE

- ☐ Forestry
- ☐ Agriculture

#### THREATS AND CONSERVATION ISSUES

Encroachment and logging were the main conservation problems but after banning of commercial logging by the Supreme Court, this problem has reduced to some extent.

A detailed inventory of the biodiversity of this extremely important area is urgently required, particularly in view of its value as a habitat of White-winged Duck and primates.

#### KEY CONTRIBUTOR

Anwaruddin Choudhury

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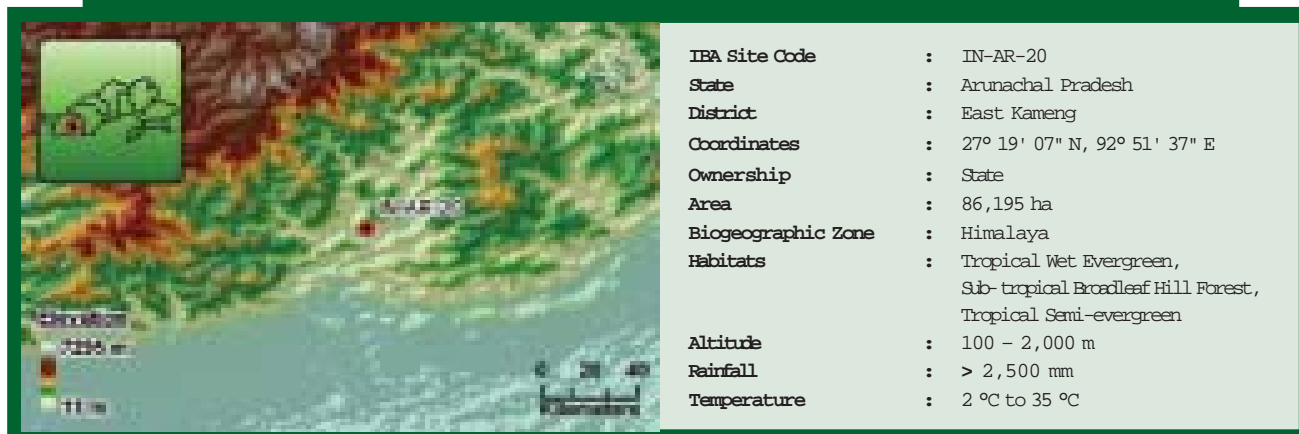
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## PAKHUI OR PAKKE WILDLIFE SANCTUARY



**IBA CRITERIA:** A1 (Threatened Species), A2 (Endemic Bird Area 130: Eastern Himalayas; Endemic Bird Area 131: Assam Plains)

**PROTECTION STATUS:** Wildlife Sanctuary, established in March 1977

### GENERAL DESCRIPTION

Pakhui or Pakke Wildlife Sanctuary is bounded to the north and west by the River Bhareli (known as Kameng in Arunachal Pradesh), to the east by the River Pakke and to the south by the Nameri National Park of Assam (an IBA). Doimara Reserve Forest (RF) lies to the west of Pakhui in the West Kameng district, while Papum RF lies to the east of the Sanctuary in East Kameng district. Both these Reserve Forests cover c. 128,900 ha (Datta 1998a). Pakhui has been recently declared as Tiger Reserve under Project Tiger.

Pakhui is criss-crossed by a number of small rivers and perennial tributaries of Bhareli and Pakke rivers. The area lies in the foothills of the Himalayas and the terrain is undulating and hilly. A large portion of the northern and central part of the Sanctuary is inaccessible due to dense vegetation, hilly terrain and lack of trails or paths.

The forest types include: Tropical Semi-evergreen on the lower plains and foothills, patches of Tropical Evergreen and Subtropical Broadleaf Forests on the hilltops and higher reaches. Moist areas near streams have a profuse growth of bamboo, cane brakes and palms. Patches of tall grassland and shingle beds occur along the larger perennial streams, which give way to lowland moist forests (Datta 1998a).

### AVIFAUNA

Singh (1991, 1994), Datta *et al.* (1998) and Pawar and Birand (2001) have together recorded 296 bird species from the area. At least 45-50 species of major frugivorous and granivorous birds occur here. The major frugivorous and granivorous birds include 8 species of bulbuls (*Pycnonotus*), 5 species of mynas (*Acridotheres*), 4 species of green pigeons (*Treron*) and Mountain Imperial Pigeon *Ducula badia*, 4 species of doves (*Streptopelia*, *Macropygia* and *Chalcophaps*), 4 barbet species (*Megalaima*), and 3 parakeet species (*Psittacula* and *Loriculus*). In addition, broadbills, cuckoos, the Red-headed Trogon (*Harpactes erythrocephalus*), two leafbird (*Chloropsis*) species, Fairy Bluebird (*Irena puella*), 2 oriole *Oriolus* species and 4 flowerpecker *Dicaeum* species were also recorded.

There are at least four globally threatened species such as the Rufous-necked Hornbill *Aceros nipalensis*, White-winged duck *Cairina scutulata*, Pallas's Fish-Eagle *Haliaeetus leucoryphus* and Marsh Babbler *Pellorneum palustre*. The uncommon Oriental Bay-Owl *Phodilus badius*, a first record from western Arunachal Pradesh, has also been recorded in the area recently (Datta *et al.* 2001; A. Datta, *pers. comm.* 2003).

Several roost sites of hornbills, where up to 150 Wreathed Hornbills *Aceros undulatus* and about 100 Great Hornbills *Buceros bicornis* roosted at the same location, were recorded in recent studies (Datta *et al.* 1998). Among the three species of hornbills, the Great Pied Hornbill is the most abundant, followed by the Wreathed and Oriental Pied *Anthracoceros albirostris* (Datta 1998a). Great and Wreathed hornbills were recorded in all habitats, while Oriental Pied was recorded only in semi-disturbed forests and plantations.

Datta (2000) has studied the relative abundance of pheasant species (*Gallus gallus*, *Lophura leucomelanos lathami* and *Polyplectron bicalcaratum*) in unlogged and logged forests of Pakhui WLS. She found that overall pheasant abundance was highest in unlogged forest and low in other habitats. No pheasant was sighted in the plantation, further proving the importance of maintaining undisturbed forest tracts for biodiversity conservation.

Pakhui has rich assemblages of biome species. Thirteen species of woodpeckers, 8 species of bulbuls, 9 species of doves and pigeons and several other groups of birds are common (Datta *et al.* 1998). The Family Muscicapidae, for which the Northeast is famous, is represented by 72 species!

This IBA is particularly good for raptors. Of the 66 species reported from the Indian subcontinent, Pakhui has 17, including rarities such as the Pallas's Fish-Eagle.

Due to its altitudinal variation from 100 m to 2,000 m, Pakhui has bird species ranging from Ibisbill *Ibidorhyncha struthersii* and Tickell's Warbler *Phylloscopus affinis* of Biome-5 (Eurasian High Montane Forest) to Grey Peacock Pheasant *Polyplectron bicalcaratum*, Pale-headed Woodpecker *Gecinulus grantia* and Black-backed Forktail *Enicurus immaculatus* of Biome-7 (Indo-Chinese Tropical Moist Forest). Ibisbill has been sighted on Khari nullah (stream) and Bhareli river (Datta *et al.* 1998).

Rarely seen, but supposedly widespread, the Green Cochoa *Cochoa viridis* is found in Pakhui but Datta *et al.* (1998) saw it only once. Elwes's or Black-tailed Crake *Porzana bicolor*, a seldom seen crake of the Himalayas and northeast India, was seen in a forest pool called Pukhri, situated on top of a plateau.

This IBA is included in the Eastern Himalayas Endemic Bird Area (Stattersfield *et al.* 1998). Of the 21 Restricted Range species recorded for India in this EBA, seven have been seen to date.

Choudhury (1995) has reported White-winged Duck *Cairina scutulata* from this IBA, but it is present in much greater numbers in the adjoining Nameri National Park in Assam (Choudhury 2002).

Endangered	
White-winged Duck	<i>Cairina scutulata</i>
Vulnerable	
Rufous-necked Hornbill	<i>Aceros nipalensis</i>
Marsh Babbler	<i>Pellorneum palustre</i>
Near Threatened	
Darter	<i>Anhinga melanogaster</i>
Oriental White Ibis	<i>Threskiornis melanocephalus</i>
White-cheeked Hill- Partridge	<i>Arborophila atrogularis</i>
Great Pied Hornbill	<i>Buceros bicornis</i>
Rufous-throated Wren- Babbler	<i>Spelaornis caudatus</i>
Endemic Bird Area 130: Eastern Himalayas	
Rufous-throated Wren -Babbler	<i>Spelaornis caudatus</i>
Hoary-throated Barwing	<i>Actinodura nipalensis</i>
White-naped Yuhina	<i>Yuhina bakeri</i>
Black-brower Leaf- Warbler	<i>Phylloscopus cantator</i>
Broad-billed Flycatcher-Warbler	<i>Tickellia hodgsoni</i>
Endemic Bird Area 131: Assam Plains	
Marsh Babbler	<i>Pellorneum palustre</i>

#### OTHER KEY FAUNA

This IBA is extremely rich in mammals, reptiles, amphibians and insects. Besides a good number of Asian Elephant *Elephas maximus*, Tiger *Panthera tigris* and Leopard *P. pardus*, there is also evidence of presence of Clouded Leopard *Neofelis nebulosa* in the area (Datta 1998b). The Golden Cat *Catopuma temmincki* and Leopard Cat *Prionailurus bengalensis* are also reported from this IBA. Datta (1999) has recorded about 10 species of smaller carnivores from Pakhui.

Pakhui WLS appears to support a highly diverse turtle population (Datta 1998c). The Assam Roofed Turtle *Kachuga sylhetensis*, restricted to the evergreen forest tracts of northeast India, was found in Khari nullah by Datta (1998c), the first record of this rare species from Arunachal Pradesh. Keeled Box Turtle *Pyxedia mouhotii* is also found here (Pawar and Birand 2001). This site has very diverse species of amphibians (28 species) and reptiles (48 species) (Pawar and Birand 2001). Some of the interesting species are North-western Trickle Frog *Occidozyga borealis* and Daniel's Oriental Streamfrog *Rana danieli*.

#### LAND USE

- q Tourism
- q Nature Conservation
- q Forestry

#### THREATS AND CONSERVATION ISSUES

- q Poaching
- q Illegal tree felling
- q Developmental project

East Kameng is among the most thinly populated districts of Arunachal Pradesh. Thirteen to fifteen villages and small settlements are located near the southeastern boundary of the Park, adjacent to the Pakke River, with an adult population of about 4,000 (mostly belonging to the Nishi tribal community, 1997-1998 census). The tribals are mostly involved in settled agriculture. The villagers engage in fishing, hunting, cane and bamboo pole cutting, collection of

honey and resin (*dhuma*) from the forest. Selective logging on a commercial scale occurred in the reserve forests till 1996. Prior to the Supreme Court ban on logging, timber felling was the main source of income for some people in the village. Two mills operated here. There was some illegal felling within the Park earlier, especially near the southeastern boundary. Sustainable activities and innovative schemes that provide livelihood for local people such as poultry, handicraft development, bee-keeping, orchid cultivation, plantations of cane, bamboo and the Tokou Palm *Livistonia jenkinsiana* are important for local needs. In fact, in the Reserve Forest, cane and the Tokou Palm are disappearing due to frequent cutting. To reduce the dependency of the tribals on the forest, growing and planting of cane, bamboo and Tokou Palm around their villages or even in degraded land in the reserve forests should be encouraged.

Villagers from Assam often enter the forests to collect cane that is sold in local markets for making furniture and decorative cane products in nearby Tezpur. Fishing in the rivers and streams is a major source of disturbance, especially by villagers from Assam who camp for several days and often poison an entire stretch of river. Dynamiting is also carried out sometimes. The biggest threat in recent years has been the increasing encroachment and almost total clear felling of adjoining reserve forests in Assam near the state boundary adjoining Pakke TR by Bodo settlers. The Bodos have cleared forests for new settlements and settled agriculture in prime foothill forest areas. Over 100 sq. km of forest has disappeared since 1995 in Naduar RF and Balipara RF. These settlers also enter Nameri NP to cut firewood and timber and encroach into the edges of Papum RF on the Arunachal side.

Hunting by the local tribal community, the Nishis, is mainly for subsistence and local consumption, although sometimes animals are hunted to supplement their cash income. Large-scale hunting for commercial purposes is not such a big threat, although incidental hunting of otters, bears and other lucrative wildlife species occurs. The local community mostly views the Forest Department and the presence of the Park with resentment as they feel dispossessed and excluded from what they have seen as their land. There are few employment opportunities and the few that exist with government departments are minimal and considered unattractive due to poor wages. The settled agriculturists also face problems from crop-raiding elephants. However, in recent years (January 2000- March 2002), the local Nishi community has become more responsive to conservation activities, thanks to the efforts of the forest department and conservation organizations. Many of them, who were active hunters, are now involved in the conservation of hornbills. Earlier there was a taboo on hunting hornbills only in the breeding season, but now a total ban on hornbill hunting is observed. The tribals have formed four village councils to ensure reduction in hunting activities in general. The council members apprehend and fine people who go hunting, fishing or collecting forest produce. However, hunting still remains a threat, because of the traditional value and increasing rarity of these birds in other areas of Arunachal. The interest and conservation commitment shown by the Nishis needs to be sustained through more incentives, income-generation opportunities tied to wildlife conservation in the area such as employment as nature guides, eco-tourism etc. and conservation education programmes. This would increase awareness among villagers about wildlife conservation and generate pride and enthusiasm among them.

Compared to other IBAs, Pakhui is relatively undisturbed due to its inaccessibility, difficult terrain and lack of roads. The sole village, Mabusa, to the south of the Sanctuary has been relocated (Datta *et al.* 1998). A few settlements are present near the northern boundary. The Bhareli river acts as a barrier to human pressure, though occasionally the tribals cross over for hunting.

Datta (1998a) has shown that many species of hornbills can survive in semi-disturbed forests and plantations. Hornbills are adapted to



exploit food resources that are rare and widely dispersed, and hence most species range over large areas of forest (John 1983). Logged forests cover larger areas than primary forests, and therefore should be included in conservation strategies (John 1987).

Cane extraction on a commercial basis occurred in Pakhui till 1991, but now it has been stopped. Minor forest products are still extracted by some tribals from the fringes but they are not of much concern as the extraction is still at a low, sustainable level.

A small part of the forest near the southern boundary had also undergone some felling in the past, before the area was declared a sanctuary in 1978 (Datta *et al.* 1998).

Construction of a power house as part of the Kameng hydroelectrical project on the boundary of the Sanctuary will disturb the tranquility and anthropogenic pressure from the labour during the construction period will affect the habitat and wildlife of the Sanctuary near the construction site (Choudhury and Menon 2003).

This large Sanctuary is grossly under-staffed. The Forest Department lacks funds and infrastructure and logistics are inadequate, and therefore, the motivation among the staff is low. Frontline staff needs training and exposure to census methodologies.

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Pakhui or Pakke Wildlife Sanctuary is also a Tiger Reserve and contains some of the fine primary tropical forests. The interior of this IBA is still unexplored.

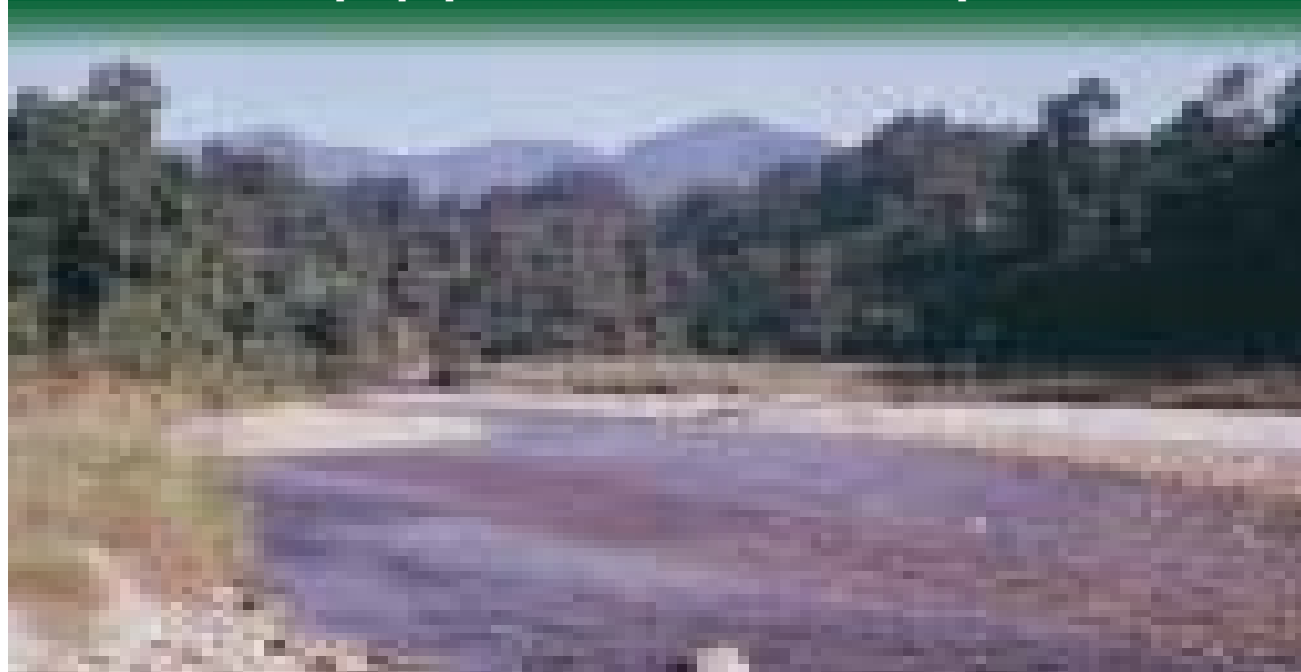



Photo: Anwaruddin Choudhury

AR-21

## PAPUM RESERVE FORESTS



<b>IBA Site Code</b>	: IN-AR-21
<b>State</b>	: Arunachal Pradesh
<b>District</b>	: East Kameng
<b>Coordinates</b>	: 27° 00' 00" N, 93° 10' 00" E
<b>Ownership</b>	: State
<b>Area</b>	: 1,06,300 ha
<b>Altitude</b>	: 100 - >1,600 m
<b>Rainfall</b>	: 2,000 - 4,000 mm
<b>Temperature</b>	: 6° C to 32° C
<b>Biogeographic Zone</b>	: Himalaya
<b>Habitats</b>	: Tropical Wet Evergreen Forest, Sub-tropical Broadleaf Hill Forest, Tropical Semi-evergreen

**IBA CRITERIA:** A1 (Threatened Species)

**PROTECTION STATUS:** Not officially protected

### GENERAL DESCRIPTION

This large IBA is in western Arunachal Pradesh and is located between two IBAs, Itanagar Wildlife Sanctuary to the east and Pakke Wildlife Sanctuary to the west. The site covers foothills as well as some higher hills in the Himalayas. A large number of perennial streams irrigate this IBA, and ultimately drain into the Brahmaputra river. Papum Reserve Forest forms part of the Eastern Himalayas Endemic Bird Area (Stattersfield *et al.* 1998).

A large part of the site is covered by Tropical Wet Evergreen and Semi-evergreen Forests, while the higher areas are under Subtropical Broadleaf Hill Forest cover (A. U. Choudhury *pers. comm.* 2003).

### AVIFAUNA

This large reserve forest, with almost similar fauna and flora as Pakke Wildlife Sanctuary, was overlooked in many of the earlier surveys (Singh 1999). The White-winged Duck *Cairina scutulata* and Rufous-necked Hornbill *Aceros nipalensis* have been recorded in the area (A. U. Choudhury *pers. comm.* 2003). Three more species of hornbill are still fairly common: the Near Threatened Great Pied *Buceros bicornis*, Wreathed *Aceros undulatus* and Oriental Pied *Anthracoseros albirostris*. A detailed avifaunal survey is long overdue, as such a large wilderness with tropical forest, although disturbed at places, is rare.

Endangered	
White-winged Duck	<i>Cairina scutulata</i>
Vulnerable	
Rufous-necked Hornbill	<i>Aceros nipalensis</i>
Near Threatened	
Great Pied Hornbill	<i>Buceros bicornis</i>

### OTHER KEY FAUNA

These include the Assamese Macaque *Macaca assamensis*, Rhesus Macaque *M. mulatta*, Capped Langur *Trachypitecus pileata*, Tiger *Panthera tigris*, Asian Elephant *Elephas maximus*, Gaur *Bos frontalis*, a small population of the rare Wild Water Buffalo *Bubalus arnee (=bubalis)* and a record of the Temminck's Golden Cat *Felis temminckii* (Choudhury 2003).

### LAND USE

- ☐ Forestry
- ☐ Agriculture

### THREATS AND CONSERVATION ISSUES

- ☐ Encroachment
- ☐ Felling of trees
- ☐ Poaching
- ☐ Grazing

The major issue is encroachment and felling of trees. People are coming down from higher areas to settle along the flat lands near the Assam border. Poaching and grazing the cattle are other problems.

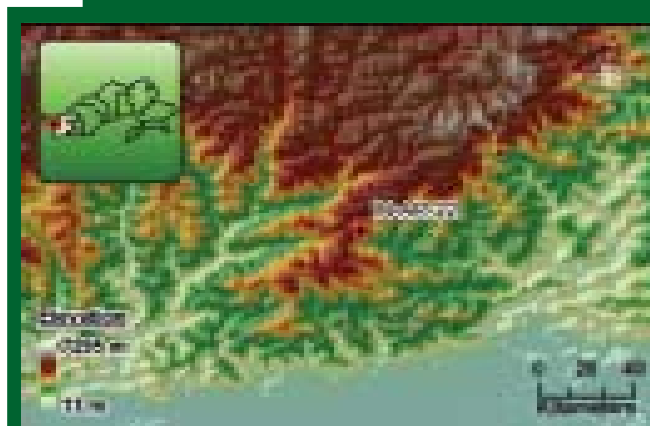
### KEY CONTRIBUTOR

Anwaruddin Choudhury

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## SANGTI VALLEY



IBA Site Code	: IN-AR-22
State	: Arunachal Pradesh
District	: West Kameng
Coordinates	: 27° 26' 46" N, 92° 04' 60" E
Ownership	: Community and Private
Area	: 300 ha
Altitude	: 1,500 m
Rainfall	: 2,000 mm
Temperature	: 2 °C to 26 °C
Biogeographic Zone	: Himalaya
Habitats	: Cultivation field, degraded Sub-tropical Broadleaf and Conifer Forest.

**IBA CRITERIA:** A1 (Threatened Species) , A2 (Endemic Bird Area 130: Eastern Himalayas)

**PROTECTION STATUS:** Not officially protected

### GENERAL DESCRIPTION

Sangti Valley is a poorly known, remote and inaccessible area in Arunachal Pradesh. This region is one of the global biodiversity hotspots (Myers 1988, 1991).

Sangti Valley is neither protected nor does it come under reserve forests, hence it does not have well a defined boundary. The area lies in the Great Himalayas. Sangti Valley is c. 1,500 m above msl.

Sangti Valley is surrounded by denuded slopes of the Great Himalayas, with sparse temperate and broadleaf forests. The western side of the Valley has villages and most parts of the Valley are under paddy cultivation in summer. In the winter, the harvested paddyfields attract many birds. There is a small, half-hectare patch of marsh, where the Black-necked Crane *Grus nigricollis* is seen.

The climate is typically montane, the main features of which are sharp contrasts between sun and shade temperatures, wide diurnal temperature range, inversion of temperature and variability of rainfall depending upon exposure and elevation. Summer is warm and wet, while winter is cold and dry, with occasional rain. Annual rainfall varies from <1,500 mm to >2,000 mm. The temperature generally ranges from 2 °C in winter (minimum) to 26 °C in summer (maximum). Heavy snowfall is experienced in winter in the surrounding mountains.

### AVIFAUNA

A bird survey of this little known wilderness was carried out in April-end, May and October 2000 as part of the BNHS's IBA project. Prior to that, the areas was also visited from 1997 to 1999. Some information on the birds of this region is found in Choudhury (2000), Gole (1996), Singh (1995) and some unpublished reports. These studies helped in assessing the bird diversity of this area.

A combined total of about 300 bird species has been recorded so far in this and the nearby IBA (Mandla-Phudung-Kalaktang) (Choudhury 2001).

Choudhury (2001), who surveyed Sangti Valley, Mandla-Phudung, Dirang, Shergaon and Chander, has reported six species of pheasants, including the globally threatened Blyth's Tragopan *Tragopan blythii*. Temminck's Tragopan *Tragopan temminckii*, which was recorded in northern Arunachal Pradesh at 2,100 to 3,600 m elevation (Ali and Ripley 1987, Grimmett *et al.* 1998) has been found above Sangti

valley, at 3,000 m. This could be the westernmost record in India (27° 18' N, 92° 06' E) (Choudhury 2001).

Sangti Valley was the only known regular wintering site of the Black-necked Crane *Grus nigricollis* in northeastern India till the discovery of a site at Zemithang, Tawang district, also in Arunachal Pradesh (Choudhury 2000). In December 1999, Choudhury photographed three birds. A maximum of six birds has been reported from this site. The local *Monpas* call it *Thung-thung Karmo* (Choudhury 2001).

This IBA site comes under the Eastern Himalayas Endemic Bird Area (EBA) (Stattersfield *et al.* 1998). Out of the 21 Restricted Range species identified for this EBA, 11 have been reported from this site.

Beautiful Sibia *Heterophasia pulchella*, another globally threatened species, was seen by Choudhury (2001) on many occasions in good quality Broadleaf Forests near Chander, northeast of Sangti Valley.

This site has been selected as an IBA based on criteria A1 (presence of globally threatened species) and A2(presence of Restricted Range species).

Sangti Valley is known for its wintering Black-necked Cranes. The local villagers of Monpa tribe consider these birds as sacred and are providing protection since time immemorial

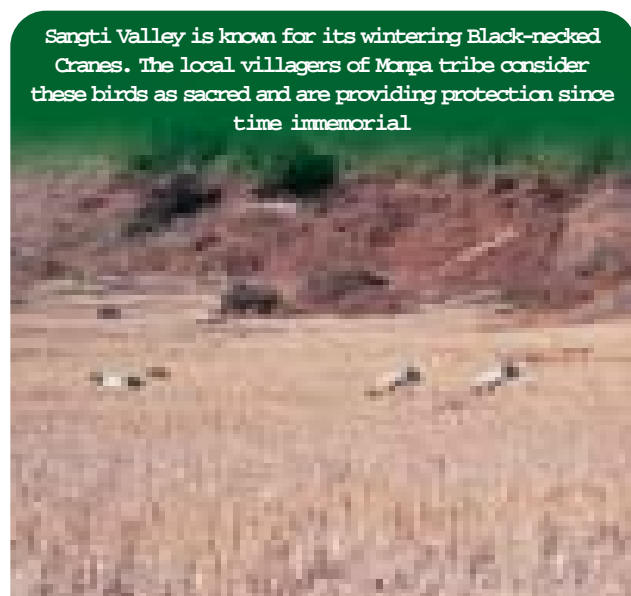


Photo: Anwaruddin Choudhury

Vulnerable	
Black-necked Crane	<i>Grus nigricollis</i>
Endemic Bird Area 130: Eastern Himalayas	
Beautiful Sibia	<i>Heterophasia pulchella</i>

#### OTHER KEY FAUNA

The Leopard cat *Felis bengalensis* is apparently common, as many skins were seen. Other major carnivore recorded was the Dhole or Wild dog *Cuon alpinus*. Among primates, the Assamese Macaque *Macaca assamensis*, and Capped Langur *Trachypithecus pileatus* are common. The local *Monpa* tribals are Buddhist and do not kill and disturb birds, especially the Black-necked Crane.

#### LAND USE

- q Agriculture

#### THREATS AND CONSERVATION ISSUES

- q Loss of habitat
- q Construction of roads

Felling of trees on the slopes for firewood is a problem as it is denuding the forest cover and increasing siltation. Thanks to the local Buddhist tribe, *Monpa*, who revere the Black-necked Crane, poaching of this globally threatened species is not a problem in Sangti Valley. However, pheasants are regularly snared by labourers of the General Road Engineers' Force (GREF), who camp at different locations during road construction and repair in the mountains towards north-east of Sangti Valley. They also cut trees for domestic firewood.

Road construction or extension, especially the Dirang-Sangti road, will have a negative impact on the Sangti Valley by increase in vehicular traffic, landslides, denudation of forests and poaching. However, these roads are important for the Army and for the general public to provide them with access to remote areas.

The local people have a benign attitude towards the Black-necked Crane, but they do not go out of their way to protect it, like in

some other areas. Most of them are not aware of the crane's importance. A conservation awareness programme would ensure greater support to protect the crane's wintering habitat in Sangti Valley. Conservation awareness programmes in Ladakh have shown very positive results, and the numbers of the Black-necked Crane there are on the rise. Similar programmes could be replicated here. The whole Sangti Valley, including paddyfields and the Sangti river, up to 1 km downstream of the sheep-breeding farm (where the cranes often roost) should be declared as a Community Conservation Area, and an IBA.

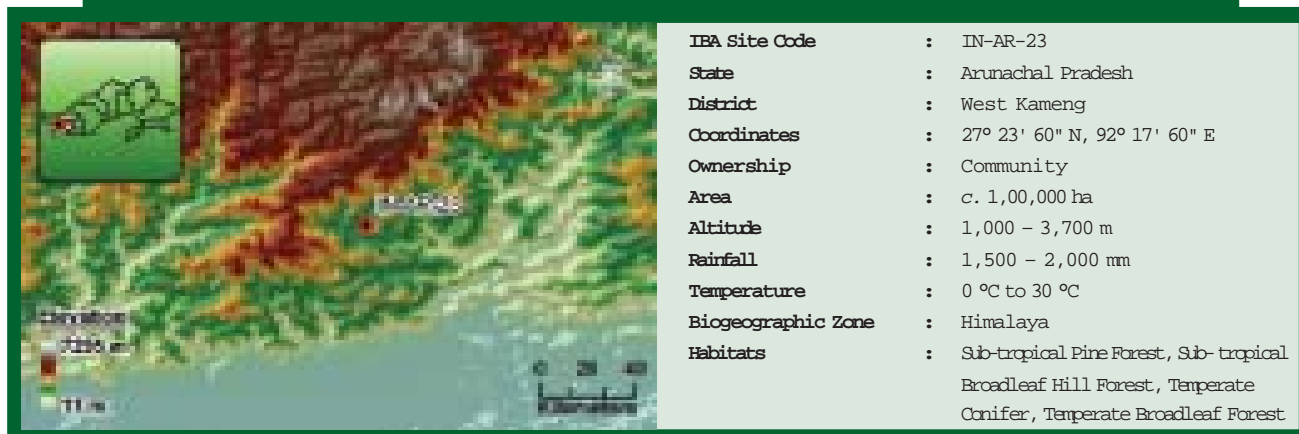
#### KEY CONTRIBUTORS

Anwaruddin Choudhury and Prakash Gole

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## SHERGAON, MANDLA-PHUDUNG AND KALAKTANG



**CRITERIA:** A1 (Threatened Species), A2 (Endemic Bird Area 130: Eastern Himalayas)

**PROTECTION STATUS:** Not officially protected

### GENERAL DESCRIPTION

Mandla-Phudung, Shergaon and Kalaktang are some of the least explored tracts in Arunachal Pradesh. This region of high biodiversity is a global biodiversity hotspot (Myers 1988) as well as an Eastern Himalayas Endemic Bird Area (Stattersfield *et al.* 1998).

Mandla-Phudung, Shergaon and Kalaktang can be treated as a unit comprising three separate but contiguous areas in West Kameng district. None of these areas are protected or even reserved forests, hence there is no well defined boundary. The forests of Shergaon are contiguous with those of Eaglenest Wildlife Sanctuary (an IBA), while Sangti Valley, another IBA, lies north of Mandla-Phudung.

This IBA mainly consists of mountainous country. The lowest parts in this montane area are about 1,000 m (near Kalaktang) while the highest parts are above 3,000 m (in Mandla-Phudung area) above msl. This IBA covers part of Middle and Lesser Himalayas and some parts of the Great Himalayas.

There are a number of small to medium-sized natural lakes in the higher reaches of Mandla-Phudung, ranging from tiny pools to waterspreads of more than 50 ha. These lakes are located at elevations above 3,000 m.

Annual rainfall varies from less than 1,500 mm on the northern slopes (partly rain-shadow zone) to more than 2,000 mm on the southern slopes which receive heavy rainfall. The temperature generally ranges from 0 °C in winter (minimum) to 30 °C in summer (maximum). Breathing is difficult above 3,000 m due to low percentage of oxygen. Heavy snowfall is experienced in winter in the higher reaches (especially above 2,200 m, occasionally down to 1,800 m).

The vegetation of this IBA includes Tropical Wet Evergreen Forest which occurs only in the lower areas near Kalaktang. Subtropical and Temperate forest is widespread, with both broadleaf as well as coniferous species. Broadleaf forests occurs generally between 1,800 and 2,800 m while the coniferous forests between 2,800 and 3,500 m. Various species of oaks, magnolias and rhododendrons dominate the broadleaf forests. Three species of pines dominate the Subtropical Pine Forests, namely *Pinus roxburghii*, *P. wallichiana* and *P. kesiya* (mostly planted).

### AVIFAUNA

A bird survey of this little known wilderness was carried out in April end, May and October 2000 as part of the IBA project (Choudhury 2001). Prior to that, these areas were also visited in 1997, 1998 and 1999. This is the first ever detailed survey of the area. Some information on the birds of this region is found in Choudhury (2000) and Singh (1995).

More than 300 species of birds have so far been recorded in the area. Many species could not be authentically identified due to poor visibility in dense forest. Furthermore, many commoner species likely to occur may have been missed.

Choudhury (2001) has noted six species of pheasants, including the globally threatened Blyth's Tragopan *Tragopan blythii*, and the Near Threatened Satyr Tragopan *Tragopan satyra*. Blyth's Tragopan was reported from Shergaon and hilltops near Moshing. Satyr Tragopan was uncommon but present all over the high elevation areas of Temperate Broadleaf and Coniferous Forests, especially above 2,000 m. It was the most abundant among the three tragopan species seen in this area.

The Vulnerable Rufous-necked Hornbill *Aceros nipalensis* is found in low numbers in this IBA.



Photo: Ketil Knudsen / Petter Lobo

The Blood Pheasant *Ithaginis cruentus*, is not uncommon, and regularly snared by poachers above 3,000 m. Mandla-Phudung is perhaps a new locality for this species (Choudhury 2001). Temminck's Tragopan *Tragopan temminckii*, was earlier recorded up to Subansiri area of this state (its westernmost limit, around 93° 10' E). Its presence in Mandla-Phudung area at an elevation of 3,000 m extends its western most location in India (27° 18' N, 92° 06' E).

Ward's Trogon *Harpactes wardi*, is another Near Threatened species reported from this IBA. Choudhury (2001) had only two sightings, just outside this IBA, but he found that near Tenzinggang, Mandla-Phudung and between Shergaon and Morshing there were good potential habitats.

The Rufous-necked Hornbill *Aceros nipalensis*, a globally threatened species, occurs in this IBA but in low numbers. Above 1,500 m, this is the main hornbill species in Subtropical Broadleaf Forests with mature trees. But, it also occurs in Tropical Evergreen and Temperate Broadleaf forests. It was reported from Tenzinggang and Shergaon areas.

As Choudhury (2001) and others have conducted detailed surveys in this and surrounding areas, many interesting records are available. Choudhury (2001) observed a party of more than 4 individuals of Brown-cheeked Laughingthrush *Garrulax henrici*, earlier known as Prince Henri's Laughingthrush, near Tenzinggang at an elevation of 2,200 m on October 8, 2000. This is the second record from India, the first being from northern Arunachal Pradesh (Grimmett *et al.* 1998). This species typically belongs to Tibet and Southeast China. Dickinson (2003) has recognized two subspecies. It is not known which subspecies was seen in Arunachal Pradesh.

Another interesting record is that of the Crow-billed Drongo *Dicrurus annectans* between Shergaon and Eaglenest Wildlife Sanctuary, at about 2,200 m. This is a new elevation record as the bird was earlier reported to be found only up to 1,450 m (Grimmett *et al.* 1998).

Hoary-throated Barwing *Actinodura nipalensis* and Austen's or Streak-throated Barwing *Actinodura waldeni* are considered as Restricted Range species to the Eastern Himalayas Endemic Bird Area (EBA) (Stattersfield *et al.* 1998). Both species were seen by Choudhury (2001) in this IBA. Similarly, White-naped Yuhina *Yuhina bakeri*, another Restricted Range species was also recorded. Beautiful Sibia *Heterophasia pulchella*, also a Restricted Range species of this EBA is a common resident with some seasonal altitudinal movement. It is found in Temperate Coniferous and Broadleaf Forest.

Rusty-bellied Shortwing *Brachypteryx hyperythra*, endemic to the Eastern Himalayas, with one record each from southern China and northern Myanmar (BirdLife International 2001) was observed only once outside this IBA in October 2000 (Choudhury 2001). In the lakes of Mandla Phudung, the Ruddy Shelduck *Tadorna ferruginea* breeds in summer.

Vulnerable	
Blyth's Tragopan	<i>Tragopan blythii</i>
Rufous-necked Hornbill	<i>Aceros nipalensis</i>
Near Threatened	
Ward's Trogon	<i>Harpactes wardi</i>
Rufous-throated Wren-Babbler	<i>Spelaeornis caudatus</i>

**Endemic Bird Area 130: Eastern Himalayas**

Blyth's Tragopan	<i>Tragopan blythii</i>
Ward's Trogon	<i>Harpactes wardi</i>
Rusty-bellied Shortwing	<i>Brachypteryx hyperythra</i>
Rufous-throated Wren-Babbler	<i>Spelaeornis caudatus</i>
Hoary-throated Barwing	<i>Actinodura nipalensis</i>
Austen's Barwing	<i>Actinodura waldeni</i>
Beautiful Sibia	<i>Heterophasia pulchella</i>
White-naped Yuhina	<i>Yuhina bakeri</i>
Black-Browed Leaf-Warbler	<i>Phylloscopus cantator</i>
Broad-billed Flycatcher-Warbler	<i>Tickellia hodgsoni</i>

**OTHER KEY FAUNA**

A small population of Asian Elephant *Elephas maximus* moves up to Shergaon in summer. During winter, they come down to the foothills and plains to avoid snowfall in Piri-la. The Tiger *Panthera tigris* has become extremely rare because of past poisoning for cattle depredation. Other felines reported in the area include the Leopard *P. pardus*, Clouded Leopard *Neofelis nebulosa* and Leopard Cat *Prionailurus bengalensis* (apparently common as many skins were seen at Shergaon). Other major carnivores recorded in the area are the Dhole or Wild Dog *Cuon alpinus* and Asiatic Black Bear *Ursus thibetanus*. The latter is persecuted for its bile and gall bladder. Once a bear is shot, traders from Bhutan take away the biles (gall bladder) and other parts. The meat is often consumed locally. The Red Panda *Ailurus fulgens* occurs all over, above 2,000 m elevation (Choudhury 2001).

Among primates, the Assamese Macaque *Macaca assamensis*, and Capped Langur *Trachypitecus pileatus* are common. The local tribes, mostly *Monpas* and *Sherdukpens* are Buddhist and do not kill primates for food. However, a few Assamese macaques are occasionally killed to reduce depredation in maize fields. Serow *Nemorhaedus sumatraensis*, Goral *N. Goral*, and Barking Deer *Muntiacus muntjak* are also not uncommon. Both Goral and Barking Deer are frequently shot by local hunters. The Sambar *Cervus unicolor* is rare and the Musk Deer *Moschus chrysogaster* is only occasionally met with (Choudhury 2001).

**LAND USE**

- ☐ Agriculture
- ☐ Forestry

**THREATS AND CONSERVATION ISSUES**

- ☐ Loss of habitat
- ☐ Poaching
- ☐ Construction of roads
- ☐ Yak grazing

Illegal felling of trees on the slopes is still a problem despite the ban on tree felling by the Supreme Court. Accidental and deliberate forest fires also occasionally damage habitat, especially in dry winter in the higher areas with temperate conifers. For instance, in early 1999, large tracts were burnt due to dry winter.

Road construction and extension has short-term as well as long-term impacts. The short-term impact is from the labourers brought in for the General Road Engineers' Force (GREF), who camp at different locations during road construction/repair. They cut natural vegetation for cooking and heating. Many labourers who come from the plains do not have a benign attitude towards wildlife as the locals

Shergaon-Mandla Phuding-Kalaktang IBA consists of forest as well as small cultivated patches. Large tracts of subtropical and temperate forest still occur in this IBA.



Photo: Anwaruddin Choudhury

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have. As the road construction progresses, wildlife becomes scarce all along the way, indicating heavy poaching pressure.

The long-term impact is that these roads open up areas for vehicular traffic and settlements. Poachers take advantage of the increased accessibility, and sometimes induce local people to become part of a commercial poaching mafia. The main targets of widespread poaching are pheasants and ungulates. Pheasants are regularly snared by GREF labourers. Some hunters have trained dogs to flushout pheasants and mammals.

It is proposed that this IBA should be declared as a Community Conservation Area (CCA) under the modified Indian Wildlife (Protection) Act, 1972. The entire mountain ridge near Mandla-Phudung along with the lakes above 3,000 m should be declared as a CCA.

Areas in the south and southwest of Shergaon, and up to Eaglenest Sanctuary, valley of Tenzingang and the hill ranges between Shergaon and Morshing could be declared as Village Reserve Forests or CCA, as excellent primary forest is still found. These forests belong to village communities, like many other forests in Arunachal Pradesh.

GREF should ensure that their labourers do not indulge in poaching and large-scale removal of natural vegetation. Their dependency on wood could be minimized by supplying them with gas for cooking and coal for heating.

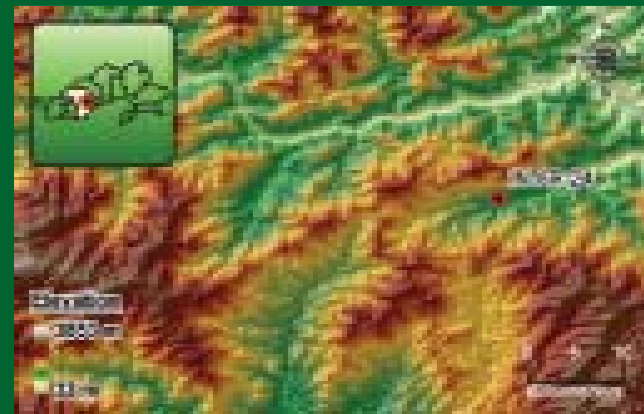
#### KEY CONTRIBUTOR

Anwaruddin Choudhury

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## TALEY VALLEY WILDLIFE SANCTUARY



<b>IBA Site Code</b>	: IN-AR-24
<b>State</b>	: Arunachal Pradesh
<b>District</b>	: Lower Subansiri
<b>Coordinates</b>	: 27° 41' 24" N, 93°50' 60" E
<b>Ownership</b>	: State
<b>Area</b>	: 51,587 ha
<b>Altitude</b>	: 120–3,000 m
<b>Rainfall</b>	: > 2,500 mm
<b>Temperature</b>	: 0 °C to 30 °C
<b>Biogeographic Zone</b>	: Himalaya
<b>Habitats</b>	: Tropical Wet Evergreen Forest, Broadleaf, Temperate Conifer, Sub-tropical Broadleaf Hill Forest

**IBA CRITERIA:** A1 (Threatened Species), A2 (Endemic Bird Area 130: Eastern Himalayas)

**PROTECTION STATUS:** Wildlife Sanctuary, established in July 1995

### GENERAL DESCRIPTION

A portion of the Taley Valley Reserved Forest in Lower Subansiri district of Arunachal Pradesh with an area of 33,700 ha. was declared as a wildlife sanctuary on July 14, 1995. The area of the Reserve Forest is c. 51,587 ha. We have considered the whole Reserve Forest and the Wildlife Sanctuary as an IBA. The Valley proper lies about 30 km away from the district headquarters, Hapoli. The area lies between the Subansiri, Supu and Pange rivers. It is surrounded by gentle sloping hills, clothed densely with thick vegetation.

There are two main valleys: the Pange Valley and the Taley Valley. Small rivers, flowing through these valleys, have formed deep gorges and rapid waterfalls. The smaller streams drain into the Subansiri river which ultimately joins the mighty Brahmaputra. The hills are gently sloping, except for a few peaks that are very steep.

The following forest types are found in Taley Valley area: East Himalayan Subtropical Forest, East Himalayan Wet Temperate Forest, Lauraceae Forest, Oak Forest, High-level Oak Forest and East Himalayan Mixed Coniferous Forest (Haridasan *et al.* 1999). The site is a refuge to a few rare and endangered plants, and abounds with economically important plants. Taley Valley is also known for dense growth of bamboo. Five species of bamboo are recorded of which *Pleioblastus simonii* is known in India only from here (Haridasan *et al.* 1999). *Taxus baccata*, the Yew tree, that has come under increasing pressure from illegal collectors due to its medicinal property is still seen in Taley Valley.

Taley Valley shows some very interesting phenomena as far as vegetation is concerned. Normally, in altitudinal succession of vegetation types, coniferous forest appears above the broadleaf type. Here, it is the reverse. The coniferous forest appears in the valleys, while broadleaf trees are seen on the hilltops.

Some plants found in the area are extremely rare and highly endangered. Some like *Paphiopedilum wardii* are believed to be extinct. Yet others are known only from restricted localities in Arunachal Pradesh, that too only for a limited time. Some species, that are locally abundant, are rare at the national or global level. We need to make greater efforts to conserve the plants for the benefit of human beings (Haridasan *et al.* 1999).

The Taley Valley and adjoining areas is the land of *Apatani* tribe,

which is well known for its conservation ethics and sustainable practices.

### AVIFAUNA

About 159 bird species have been recorded in Taley Valley WLS so far (Singh 1994). Most of these species breed here, enhancing the importance of this IBA site. The only globally threatened species confirmed from this area is the Rufous-necked Hornbill *Aceros nipalensis*. Presence of Blyth's Tragopan *Tragopan blythii*, another threatened species, has yet to be confirmed, though the related, Temminck's Tragopan *Tragopan temminckii* is reported. A few notable bird records from this IBA site are the Purple Cochoa *Cochoa purpurea*, the only record of the species from Arunachal Pradesh (Singh 1994). This rare species is reported to breed in Taley Valley forests. A record of Yellow-rumped Honeyguide *Indicator xanthonotus* is the second record of the species from the state.

The Eurasian Tree-creeper *Certhia familiaris*, a bird of the Western Himalayas, was first noted by Singh (1994) from Taley Valley, which is a considerable eastward extension of its range in the Himalayas. Another first record from Arunachal Pradesh is that of the Silver-backed Needletail *Hirundapus cochinchinensis*. It was seen by Singh (1994) in March 1994 at an elevation of 2,400 m.

Of the 21 species recorded in India in the Eastern Himalayas EBA (Stattersfield *et al.* 1998) 10 have been reported from this IBA. There are not many IBAs in this EBA where so many Restricted Range species are found

Due to altitudinal variation from 120 m to 3,000 m, this site represents three biomes: Biome-7 (Sino-Himalayan Temperate Forest), Biome-8 (Sino-Himalayan Subtropical Forest) and Biome-9 (Indo-Chinese Tropical Moist Forest). A total of 58 biome species are found in this IBA but they are too many to list here. Some of the interesting species seen here are Common Hill-Partridge *Arborophila torqueola*, Striated Laughingthrush *Garrulax striatus*, Slender-billed Scimitar-babbler *Xiphirhynchus superciliosus*, Rusty-flanked Tree-creeper *Certhia nipalensis*, Crimson-browed Finch *Pinicola subhimachala*, Brown Bullfinch *Pyrrhula nipalensis*, Rusty-fronted Barwing *Actinodura egertoni*, Red-headed Tit *Aegithalos concinnus*, Black-spotted Yellow Tit *Parus spilonotus* and Black-throated Sunbird *Aethopyga saturata*.



Vulnerable	
Red-breasted Hill- Partridge (?)	<i>Arborophila mandellii</i>
Blyth's Tragopan (?)	<i>Tragopan blythii</i>
Rufous-necked Hornbill	<i>Aceros nipalensis</i>
Rusty-bellied Shortwing (?)	<i>Brachypteryx hyperythra</i>
Beautiful Nuthatch	<i>Sitta formosa</i>
Near Threatened	
Rufous-throated Wren-Babbler	<i>Spelaeornis caudatus</i>
Endemic Bird Area 130: Eastern Himalayas	
Red-breasted Hill- Partridge (?)	<i>Arborophila mandellii</i>
Blyth's Tragopan (?)	<i>Tragopan blythii</i>
Rusty-bellied Shortwing	<i>Brachypteryx hyperythra</i>
Rufous-throated Wren-Babbler	<i>Spelaeornis caudatus</i>
Austen's Barwing	<i>Actinodura waldeni</i>
Brown-throated Tit- Babbler	<i>Alcippe ludlowi</i>
Beautiful Sibia	<i>Heterophasia pulchella</i>
White-naped Yuhina	<i>Yuhina bakeri</i>
Black-browed Leaf- Warbler	<i>Phylloscopus cantator</i>
Broad-billed Flycatcher-Warbler	<i>Tickellia hodgsoni</i>

#### OTHER KEY FAUNA

The Taley valley is famous for rare and elusive cats such as the Clouded leopard *Neofelis nebulosa* and Golden Cat *Catopuma temmincki*. Some other mammals found in the area are Tiger *Panthera tigris*, Leopard *P. pardus*, Leopard Cat *Prionailurus bengalensis*, Capped Langur *Trachypithecus pileatus*, Asiatic Black Bear *Ursus thibetanus* and Chinese pangolin *Manis crassicaudata*.

#### LAND USE

- ☐ Nature conservation
- ☐ Tourism and recreation

#### THREATS AND CONSERVATION ISSUES

- ☐ The Lower Subansiri hydroelectric project

In India, Taley Valley is one of the few examples of undisturbed pristine climax vegetation. Though the forests in the Sanctuary are intact, the surrounding hills are almost barren.

Taley Valley Wildlife Sanctuary and Reserve Forest is in great danger of being irreversibly damaged if the Lower Subansiri hydroelectric project is completed (Vagholikar and Ahmed 2003). Intended to generate 2,000 MW of electricity, the dam would submerge 3,436 ha of forest. The Environmental Impact Assessment Report that has been submitted by the project authorities has glaring errors in the biodiversity and wildlife components. The project has been cleared by the Central Government despite the violations by the project authorities under the Environment Protection Act and the Forest Conservation Act. The downstream impacts of such a large project on fisheries, rice

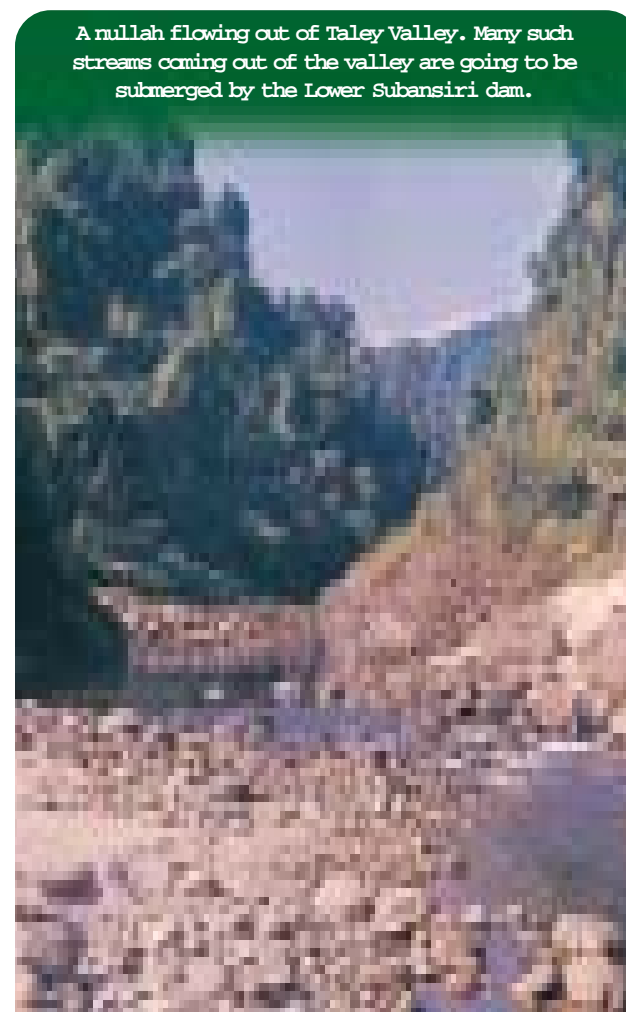
cultivation and endangered species such as the Gangetic Dolphin *Platanista gangetica* have not been considered. Moreover, the area is prone to earthquakes and landslides, a fact that appears to have been glossed over by the project authorities.

#### KEY CONTRIBUTORS

Bharat Bhushan Bhatt, K. Haridasan, P. Singh, R. Suresh Kumar, Bikul Goswami and Manju Menon

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A nullah flowing out of Taley Valley. Many such streams coming out of the valley are going to be submerged by the Lower Subansiri dam.

Photo: Anwaruddin Choudhury

## THE CHAPORIES OF LOHIT RIVER



IBA Site Code	: IN-AR-25
State	: Arunachal Pradesh
District	: Lohit
Coordinates	: 27°53' N, 96° 05' E
Ownership	: State and community
Area	: 20,000 Ha
Altitude	: 150 m
Rainfall	: 2000-4000 mm
Temperature	: 7 °C - 35 °C
Biogeographic Zone	: Himalaya
Habitats	: Riverine forest, savannah grassland, wetland

IBA CRITERIA: A1 (Threatened Species)

PROTECTION STATUS: Not officially protected

### GENERAL DESCRIPTION

The *chapories* (=riverine islands and tracts) of the Lohit river starts from Assam-Arunachal Pradesh border near Sadiya and extends eastwards forming part of 'Assam Plains' Endemic Bird Area. This IBA also includes the entire riverbed of the Lohit, at places more than 10 km wide with sandy and grassy tracts. The area is the floodplains of the Lohit river and the entire area is criss-crossed by numerous channels turning it into a complex of waterbodies, riverine islands, grassland and forest. The area has rich assemblage of grassland birds (A. U. Choudhury *pers. comm.* 2003)

### AVIFAUNA

More than 140 species of birds have been listed during general wildlife surveys and hence the total diversity could be more than 300 species including a large number wintering waterfowl (A. U. Choudhury *pers. comm.* 2003). The only Endangered species confirmed was the Bengal Florican *Houbaropsis bengalensis* (Choudhury 1996). The White-winged Duck *Cairina scutulata* was reported and is very likely also but need a confirmed sighting. Among Vulnerable species, two species were recorded from the area, the Lesser Adjutant *Leptoptilos javanicus* and the Swamp Francolin *Francolinus gularis* (Choudhury 2004). The Spot-billed Pelican *Pelecanus philippensis* was recorded from just west of this IBA in Assam. There is extensive habitat for potential population of Jerdon's Babbler *Chrysomma altirostre* and Black-breasted Parrotbill *Paradoxornis flavirostris*.

Critically Endangered	
Oriental White-backed Vulture	<i>Gyps bengalensis</i>
Slender-billed Vulture	<i>Gyps tenuirostris</i>
Endangered	
White-winged Duck (?)	<i>Carina scutulata</i>
Bengal Florican	<i>Houbaropsis bengalensis</i>
Vulnerable	
Lesser Adjutant	<i>Leptoptilos dubius</i>
Swamp Francolin	<i>Francolinus gularis</i>
Near Threatened	
Darter	<i>Anhinga melanogaster</i>
Cinereous Vulture	<i>Aegypius monachus</i>
Red-headed or King Vulture	<i>Sarcogyps calvus</i>
Cinereous Vulture	<i>Aegypius monachus</i>

In winter, there are large congregations of Great Cormorant *Phalacrocorax carbo* (often in hundreds), Goosanders *Mergus merganser* in smaller groups all over, Ibisbill *Ibidorhyncha struthersii*, and many species of ducks.

### OTHER KEY FAUNA

Among major mammals there are Tiger *Panthera tigris*, Asian Elephant *Elephas maximus*, the rare Asiatic Wild Buffalo *Bubalus arnee* (=bubalis) (Choudhury 1999) and Hog deer *Axis porcinus*. The Gangetic Dolphin *Platanista gangetica* is occasionally seen towards extreme west. The Gharial *Gavialis gangeticus* has not been reported in recent years.

### LAND USE

- ☐ Forestry
- ☐ Fishing
- ☐ Navigation

### THREATS and CONSERVATION ISSUES

- ☐ Encroachment
- ☐ Hunting and fishing
- ☐ Grazing and felling of trees
- ☐ Construction of dam

The proposed dams in the upper reaches would have serious impact in downstream ecosystem and the entire riverine tract will be affected. A detailed survey is recommended, especially for the smaller threatened birds such as Jerdon's Babbler *Chrysomma altirostre* and Black-breasted Parrotbill *Paradoxornis flavirostris*.

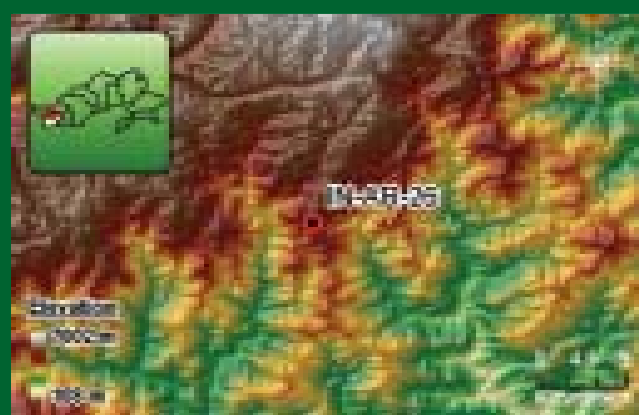
### KEY CONTRIBUTOR

Anwaruddin Choudhury

### KEY REFERENCES

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## THUNGRI CHANGLANG, POSHINGLA COMPLEX



<b>IBA Site Code</b>	: IN-AR-26
<b>State</b>	: Arunachal Pradesh
<b>District</b>	: West Kameng
<b>Coordinates</b>	: 27° 31' 60" N, 92° 21' 60" E
<b>Ownership</b>	: Community
<b>Area</b>	: c. 50,000 ha
<b>Altitude</b>	: 2,000 – 3,500 m
<b>Rainfall</b>	: > 1,200 mm
<b>Temperature</b>	: 0 °C to 20 °C
<b>Biogeographic Zone</b>	: Himalaya
<b>Habitats</b>	: Temperate Broadleaf Hill forest and Temperate Pine Forest

**IBA CRITERIA:** A1 (Threatened Species), A2 (Endemic Bird Area 130: Eastern Himalayas)

**PROTECTION STATUS:** Not officially protected

### GENERAL DESCRIPTION

This is a remote area that has all the requirements to be considered as an IBA. It is large and thinly populated, with many inaccessible areas where the forest cover is largely intact. It is part of the Great Himalayas and the topography is rugged, with steep rocky slopes. The forest cover consists of temperate broadleaf in the lower areas and coniferous forests in the higher areas. Fir *Abies* spp. dominate the coniferous forests on the hill tops. Bamboo brakes in the gorges along the hilly streams and rhododendrons on middle to higher reaches, provide habitat for many species of birds.

### AVIFAUNA

According to A. U. Choudhury (*pers. comm.* 2003), four species of pheasants are found in this area, namely the Satyr Tragopan *Tragopan satyra*, Temminck's Tragopan *T. temminckii*, Blyth's Tragopan *T. blythii* and Blood Pheasant *Ithaginis cruentus*. Of these, Blyth's Tragopan is globally threatened (BirdLife International 2001) and a Restricted Range species (Stattersfield *et al.* 1998). A total of eight Restricted Range species are found but three need confirmation and there could be more because the area has not been studied properly.

Vulnerable	
Red-breasted Hill-Partridge (?)	<i>Arborophila mandellii</i>
Blyth's Tragopan	<i>Tragopan blythii</i>
Sclater's Monal (?)	<i>Lophophorus sclateri</i>
Rusty-bellied Shortwing (?)	<i>Brachypteryx hyperythra</i>
Mishmi Wren-Babbler	<i>Spelaeornis badeigularis</i>
Near Threatened	
Ward's Trogon (?)	<i>Harpactes wardi</i>
Endemic Bird Area 130: Eastern Himalayas	
Red-breasted Hill- Partridge (?)	<i>Arborophila mandellii</i>
Blyth's Tragopan	<i>Tragopan blythii</i>
Sclater's Monal (?)	<i>Lophophorus sclateri</i>
Mishmi Wren- Babbler	<i>Spelaeornis badeigularis</i>
Ward's Trogon (?)	<i>Harpactes wardi</i>
Rusty-bellied Shortwing (?)	<i>Brachypteryx hyperythra</i>
Beautiful Sibia	<i>Heterophasia pulchella</i>
Broad-billed Flycatcher-Warbler (?)	<i>Tickellia hodgsoni</i>

As the habitat is largely intact, many biome species of Sino-Himalayan Temperate Forest and Eurasian High Montane Forest (Alpine and Tibetan) are likely to occur. This site has been selected as an IBA on the basis of A1 (globally threatened) and A2 (Restricted Range) criteria, but this site definitely satisfies A3 criteria also (biome-restricted assemblages of birds) (BirdLife International, undated). However, a list of biome species is not available.

### OTHER KEY FAUNA

Not much is known except that Musk Deer *Moschus chrysogaster*, Goral *Nemorhaedus goral*, Asiatic Black Bear *Ursus thibetanus* and Red Panda *Ailurus fulgens* are found. Among the non-human primates, Capped Langur *Trachypithecus pileatus* and Assamese Macaque *Macaca assamensis* are found.

### LAND USE

- ☐ Agriculture
- ☐ Forestry

### THREATS AND CONSERVATION ISSUES

- ☐ Firewood Collection
- ☐ Poaching
- ☐ Yak grazing

Poaching and timber cutting occurs around villages and settlements but their full impact is not known due to remoteness of the area and thin human population.

### KEY CONTRIBUTORS

Bharat Bhushan Bhatt and Anwaruddin Choudhury

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AR-27

## YARDI-RABE SUPSE WILDLIFE SANCTUARY



<b>IBA Site Code</b>	: IN-AR-27
<b>Administrative Region</b>	: Arunachal Pradesh
<b>District</b>	: West Siang
<b>Coordinates</b>	: 29° 00' 59" N, 95° 12' 31" E
<b>Ownership</b>	: State
<b>Area</b>	: 49,600 ha
<b>Altitude</b>	: c.1, 500 - 2,500 m
<b>Rainfall</b>	: >2,500 mm
<b>Temperature</b>	: 0 °C to 24 °C
<b>Biogeographic Zone</b>	: Himalaya
<b>Habitats</b>	: Sub-tropical and Temperated Broadleaf Hill, Sub-tropical Pine Forest, and Temperate forests

**IBA CRITERIA:** A1 (Threatened Species)

**PROTECTION STATUS:** Wildlife Sanctuary, established in February 1998

### GENERAL DESCRIPTION

Yardi-Rabe Supse Wildlife Sanctuary is virtually an unknown protected area in West Siang district of Arunachal Pradesh in the Lesser Himalayas. Although the Sanctuary has been notified, the rights of the community have not yet been settled fully and there may be some alteration in area also at the time of finalisation. This is basically a data deficient site but extremely important because it has some globally threatened avian species. The area is entirely mountainous with hills and deep gorges. The vegetation ranges from subtropical to temperate forests. A large part of this IBA is remote and inaccessible. (A. U. Choudhury pers. comm. 2003).

Yardi-Rabe Supse Wildlife Sanctuary is yet to be surveyed. This IBA has some fine untouched primary forest.



Photo: Anwaruddin Choudhury

### AVIFAUNA

The avian diversity of this IBA is virtually unknown, except for the threatened Rufous-necked Hornbill *Aceros nipalensis* of which a sizeable population is believed to exist. Unconfirmed reports of Red-breasted Hill-Partridge *Arborophila mandellii* have also been received.

#### Vulnerable

Rufous-necked Hornbill	<i>Aceros nipalensis</i>
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### OTHER FAUNA

The Asiatic Black Bear *Ursus thibetanus* was reported to be common. Other mammals are Tiger *Panthera tigris*, Clouded Leopard *Neofelis nebulosa*, Assamese Macaque *Macaca assamensis* and Capped Langur *Trachypithecus pileata* (A. U. Choudhury pers. comm. 2003).

### LAND USE

- ☐ Nature conservation
- ☐ Forestry

### THREATS AND CONSERVATION ISSUES

- ☐ Hunting
- ☐ Felling of trees

As this is a remote inaccessible area, poaching and felling of trees is insignificant. The main issue now is finalisation of the sanctuary by government and clarification on the rights of the local community.

### KEY CONTRIBUTORS

Anwaruddin Choudhury and M. K. Palit.

### REFERENCE

Not available

## ZAMITHANG-NELYA



<b>IBA Site Code</b>	: IN-AR-28
<b>State</b>	: Arunachal Pradesh
<b>District</b>	: Tawang
<b>Coordinates</b>	: 27° 42' 28" N, 92° 22' 38" E
<b>Ownership</b>	: Community
<b>Area</b>	: c. 50,000 ha
<b>Altitude</b>	: 2,000-5,000 m
<b>Rainfall</b>	: > 1,500 mm
<b>Temperature</b>	: 0 °C to 25 °C
<b>Biogeographic Zone</b>	: Himalaya
<b>Habitats</b>	: Temperate Pine Forest, Temperate Broadleaf Hill Forest, Sub-alpine Scrub, Alpine Scrub

**IBA CRITERIA:** A1 (Threatened Species), A2 (Endemic Bird Area 130: Eastern Himalayas)

**PROTECTION STATUS:** Not officially protected

### GENERAL DESCRIPTION

This is another remote mountainous area at the trijunction of India, Bhutan and China (Tibet). Much of its border is under the control of the Army. Owing to altitudinal variation from 2,000 to >5,000 m, the forest cover varies from Temperate Conifer and Broadleaf to Subalpine and Alpine Scrub. It also has high altitudes lakes, good sites for breeding waterfowl of which Ruddy Shelduck *Tadorna ferruginea* has been confirmed (A. U. Choudhury *pers. comm.* 2003).

### AVIFAUNA

Detailed information on the bird life is not available. Singh (1999) and his team have seen 118 species during six days of bird watching in the Towang-Zemithang area between 1,770 and 4,900 m above msl. They added the following species for Arunachal Pradesh from this site: Peregrine Falcon *Falco peregrinus*, Upland Buzzard *Buteo hemilasius*, White-browed Tit-Warbler *Leptopoecile sophiae* and Streaked Rosefinch *Carpodacus rubicilloides*.

This is the second site in Arunachal Pradesh where Black-necked Crane *Grus nigricollis*, a Vulnerable species (BirdLife International 2001) is found (Choudhury 2000). The exact location where these cranes are found in winter is Zemithang Valley on the banks of Nyamjang Chu (*Chu* = river). Zemithang is 95 km from Tawang and 250 km from the Sangti Valley by

road, and only 20 km and 65 km respectively as the crow flies. Sangti Valley (an IBA) is another site where the Black-necked Crane is regularly found (Choudhury 2001). The Zemithang Valley is about 1.5 km long and 0.5 km wide, and at 2,000 m, compared to 1,500 m of the Sangti Valley. The local Buddhists revere and do not harm this species, locally called *Thung-thung karmo*. Since time immemorial, two to four birds visit this valley.

This site is also important for biome-restricted species. For Biome-5 (Eurasian High Montane - Alpine and Tibetan), found above 3,600 m, BirdLife International (undated) has listed 48 species. Of these, some interesting species found in this IBA are the Himalayan Griffon *Gyps himalayensis*, Snow Partridge *Lerwa lerwa*, Black-necked Crane *Grus nigricollis*, Ibisbill *Ibidorhyncha struthersii*, Snow Pigeon *Columba leuconota*, Grey-backed Shrike *Lanius tephronotus*, Blood Pheasant *Ithaginis cruentus*, and Satyr Tragopan *Tragopan satyra*.

The site is included in the Eastern Himalayas Endemic Bird Area (Stattersfield *et al.* 1998). BirdLife International (undated) has listed 21 species from this EBA. Seven species have been identified, but a thorough survey would reveal many more.



Photo: Ketill Knudsen / Peter Lobo

Vulnerable	
Black-necked Crane	<i>Grus nigricollis</i>
Beautiful Nuthatch	<i>Sitta formosa</i>
Mishmi Wren-Babbler	<i>Spelaornis badeigularis</i>
Near Threatened	
Satyr Tragopan	<i>Tragopan satyra</i>
Ward's Trogon (?)	<i>Harpactes wardi</i>
Wedge-billed Wren-Babbler	<i>Sphenocichla humei</i>
Endemic Bird Area 130: Eastern Himalayas	
Mishmi Wren-Babbler	<i>Spelaornis badeigularis</i>
Ward's Trogon (?)	<i>Harpactes wardi</i>
Wedge-billed Wren-Babbler	<i>Sphenocichla humei</i>
Hoary-throated Barwing	<i>Actinodura nipalensis</i>
Brown-throated Tit-Babbler	<i>Alcippe ludlowi</i>
White-naped Yuhina	<i>Yuhina bakeri</i>
Broad-billed Flycatcher-Warbler	<i>Tickellia hodgsoni</i>

The Zomithang valley is the second site in Arunachal Pradesh where the vulnerable Black-necked Crane winters.



Photo: Anwaruddin Choudhury

#### OTHER KEY FAUNA

High altitude mammals include Bharal *Pseudois nayaur*, Takin *Budorcas taxicolor*, Snow Leopard *Uncia uncia*, Goral *Nemorhaedus goral*, Musk Deer *Moschus chrysogaster*, Serow *Naemorhedus sumatraensis*, Asiatic Black Bear *Ursus thibetanus* and possibly Brown Bear *Ursus arctos* in the extreme north of this IBA. Red Panda *Ailurus fulgens*, Assamese Macaque *Macaca assamensis* and Capped Langur *Trachypithecus pileatus* also occur.

#### LAND USE

- ☐ Agriculture
- ☐ Army deployment
- ☐ Forestry
- ☐ Grazing

#### THREATS AND CONSERVATION ISSUES

- ☐ Yak grazing
- ☐ Road construction
- ☐ Felling of trees

The most important conservation issue is the protection of the Black-necked Crane. The locals are all Buddhists, belonging to the *Monpa* tribe, and do not harm the birds. However, there have been two instances of shooting of Black-necked Cranes; in the late 1970s, by a government officer and then in the 1980s by the Circle Officer who was not a *Monpa*. The villagers were very upset with these incidents and still remember them with sorrow. Thanks to good publicity, poaching of cranes has not been reported in recent years. However, as the army units change regularly and new soldiers are posted, they have to be educated not only about the Black-necked Crane but also about other

wildlife. This is a great opportunity to organize environmental education training workshops regularly. Perhaps, the Valley where these cranes winter should be declared a Community Conservation Area, under the Indian Wildlife (Protection) Act, amended in 2003.

The other conservation issues are more mundane and not site specific: timber operation for firewood, occasional grassland burning (land development for army), and forest clearings for horticulture by the local people.

#### KEY CONTRIBUTORS

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