IMPORTANT BIRD AREAS OF

SIKKIM

PRIORITY SITES FOR CONSERVATION

Department of Forest, Environment & Wildlife Management
Government of Sikkim

BirdLife INTERNATIONAL
Together for birds and people

IBCN
Brings people for birds

guli-Lachungpa, M. Zafar-ul Islam and Asad R. Rahmani

7/10/13

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SIKKIM

PRIORITY SITES FOR CONSERVATION

G. Lachungpa

Blood Pheasant *Ithaginis cruentus* State Bird of Sikkim

Department of Forest, Environment & Wildlife Management
Government of Sikkim

BNHS India Conserving Nature Since 1883 | RSPB | BirdLife International Together for birds and people | IBCN Brings people for birds | Sikkim Ornithological Society

Usha Ganguli-Lachungpa, M. Zafar-ul Islam and Asad R. Rahmani

Recommended citation:
Ganguli-Lachungpa, U., Islam, M. Z. and Rahmani, A. R. (2007) *Important Bird Areas of Sikkim: Priority Sites for Conservation.* Department of Forest, Environment & Wildlife Management, Government of Sikkim.

Tel: 0091-3592-281385, Fax: 0091-3592-280402
Website: www.sikenvis.nic.in

Printed: Beracah Printing & Stationery, Girls' School Road, Deorali, Gangtok Sikkim 737102 INDIA. Email: beracah_gtk@yahoo.co.in Cell: 94341-91791

Cover design: Pankaj Thapa <peathapa@gmail.com>, Tharchen Moktan
Back Cover photographs: Ganden Lachungpa

Acknowledgments: Tim Inskipp, C. Lachungpa, S.B.S. Bhadauria, S. Tambe, Karma Legshey, G. S. Rawat, Bishnu Kumari Sharma.

Photo & Illustration Credits: A. A. Zarri, Anwaruddin Choudhury, B. Habib, Balachandran, BirdLife International, Bishnu Kumar Sharma, Brig. I. N. Rai, Carl D'Silva, C. Francis M., C. Lachungpa, C. Prakash, Dipankar Ghosh, G. Jathar, G. Lachungpa, G. Lepcha, H. Punjabi, H. Singha, Issac Kehimkar, J. Howman, K. Knudsen/Peter Lobo, K. Sivakumar, Karchoong, M. Lama, Marten Van Dijil, Mohan Sharma, Nayan Khanolkar, O. Pfister, P. Iqubal, Pranav Chanchani, Ravi Sankaran, S. Achharya, S. Cook, S. K. Pradhan, Sonam Tshering Lachungpa, S. Tambe, S. Watanabe, Sumit Sen, V. Moseikin, Vivek Nadkarni, World Pheasant Association-India

Declaration: Material in this book has been taken from Islam, M. Z. and Rahmani, A. R. (2004) *Important Bird Areas in India: Priority sites for Conservation.* Indian Bird Conservation Network: Bombay Natural History Society and BirdLife International (U.K.). Pp. xviii + 1133

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Foreword

So far the most authoritative book on the bird diversity of Sikkim is The Birds of Sikkim by noted Indian ornithologist Dr. Salim Ali of the Bombay Natural History Society popularly known as BNHS. In this book he states eloquently and vividly '....This abrupt telescoping of the terrain from the hot steamy foothill valleys to the arctic cold of the snow capped peaks which has produced the marked altitudinal zonation in the rainfall, humidity, climate and vegetation is also responsible for the great variety and numerical abundance of the resident bird life, making Sikkim perhaps the richest area of its size anywhere in the world.....' having over 30% of the birds of the entire subcontinent comprising India, Pakistan, Nepal, Bhutan, Myanmar, Bangladesh and Sri Lanka. This comprehensive book though out of print now was the copyright of the Sikkim Forest Department in 1962.

Dr. Ali was commissioned by the then Durbar to do the study in which he involved some renowned bird enthusiasts and stalwarts. In addition to his personal field work, he also referred some of the best bird collections and references from this region. Not much has been done since his pioneering work.

Since last two decades, the department has been compiling information on the various migratory birds, especially waterfowl overflying Sikkim and using the various high altitude wetlands as stop-over sites. We have been able to add many more species to Dr. Ali's list of about 550 birds. We were able to record the presence of the globally threatened Black-necked Crane *Grus nigricollis* in Lhonak Valley and on the cold desert of the Tso Lhamo Plateau in North Sikkim, we could record the breeding of Ruddy Shelduck *Tadorna ferruginea* in almost all the high altitude wetlands in North and East Sikkim. Endemic bird area species like Rusty-bellied Shortwing *Brachypteryx hyperythra* and Hoary-throated Barwing *Actinodura nipalensis* are not difficult to sight in our forests. We have many important birds in Sikkim. Information gathered over these years through the research wing of the department has been incorporated in the national book 'Important Bird Areas in India: Priority Sites for Conservation' published by BNHS.

Sikkim has the proud privilege to be the first Indian state to have officially banned the non-steroidal anti-inflammatory drug Diclofenac used by veterinarians and causing the almost complete annihilation of our vultures. Government notification No. 04/AHLF&VS dated 22.12.2005 declares a complete ban on use of drug Diclofenac Sodium with immediate effect throughout the State of Sikkim. At present Sikkim has the best Protected Area coverage in the country. Our only national park is the highest in the country with Mt. Khangchendzonga the guardian deity of Sikkim also being the third highest mountain peak in the world. We have seven wildlife sanctuaries including a newly declared Kitam Bird Sanctuary in lowland South Sikkim. We hope that with this Sikkim IBA publication, more and more scholars get involved in the enjoyment and study of the rich bird diversity of our small but beautiful state.

(N.T. BHUTIA, IFS)
CHIEF WILDLIFE WARDEN
GOVERNMENT OF SIKKIM

MESSAGE

Sikkim takes pride in being the best performing state in tourism in Northeast India. As far as our tourism destinations are concerned there are perhaps none finer. We pride ourselves on our green image and steps taken by all the Sikkimese in preserving this. We are slowly making our mark as an eco-friendly eco-tourism destination by seeking to empower our youth and local communities in this new source of gainful employment. As more birding and nature enthusiasts visit our beautiful small state, more of our youth will come in contact with the reality of having a passion and hobby that can not only be uplifting for the soul but also economically beneficial in the short and long term.

I am happy that the Department of Forest, Environment and Wildlife Management is bringing out this publication on Sikkim's eleven Important Bird Areas and priority sites for conservation with the help of the Bombay Natural History Society and hope that it fulfils its purpose in highlighting the importance of Sikkim to the world.

DR. PAWAN CHAMLING
CHIEF MINISTER, SIKKIM

MESSAGE

Sikkim takes enormous pride in its natural resources and is aware of the need for their wise management for the posterity. Much has been documented about the wealth of our flora and fauna since the British times and most present day documents are based on these. It is time we had a more recent publication keeping the present conservation issues in mind and highlighting the species that are little noticed but of great conservation significance globally.

I am happy that the department has been able to put together this kind of information on the avifaunal wealth of Sikkim with the help of the Bombay Natural History Society. We are justifiably proud that the only 'Bird Book' of Sikkim is by India's foremost ornithologist Dr. Salim Ali, who was such an integral part of the Bombay Natural History Society. It was the then Forest Department which published his book, the Birds of Sikkim, a pictorial booklet with the plates from the book and a set of cloth-backed wall posters of the plates. Today we find that with the changes in nomenclature and other advances in ornithology world-wide, we need an update to this original monumental work.

I hope this publication on the Important Bird Areas of Sikkim: Priority Sites for Conservation is put to its fullest use by amateur and professional ornithologists, naturalists and generalists. If it could serve as a receptacle for their valuable observations, inputs and additions, the purpose of its publication would be amply justified.

S.B. SUBEDI
Minister, Forest, Env. & WL Management and Mines & Geology
Government of Sikkim

MESSAGE

Appreciating the monumental work done by Dr. Salim Ali on the birds of Sikkim and the importance of the State for globally threatened and other important birds found in this region of the Eastern Himalayas, the Government of Sikkim is proud to have recognized eleven Important Bird Areas or IBAs across the entire state way back in November 2003. We were able to announce the same to the Bombay Natural History Society on the occasion of Dr. Salim Ali's birthday and the Centenary Journal Seminar on 12th November 2003.

The state of Sikkim with its unique position in the mighty Himalayas and status as a hotspot of the variety of life or bio-diversity is like a beautiful emerald in India's crowning glory. Our local population, their cultures and traditions have long protected this variety and made us so popular world-wide.

Accepting our precarious perch in a fragile young mountain chain, we have rightly resolved to progress the only way, eco-friendly and organic. No major industries other than eco and village tourism, home-stays, pilgrimage and adventure tourism, etc. have made us such a sought-after destination. Our people hare learning to show-case their cultures and traditions for the world to see during festivals and 'melas' in different parts of Sikkim. Now not only foreigners and domestic tourists, our children can also be proud of their heritage. At the same time we should be careful that our image as perhaps the best environment conscious eco-tourism destination is not harmed in any way.

Today we have among one national park and seven wildlife sanctuaries, the newly declared Kitam Bird Sanctuary in South Sikkim. Our *ex-situ* conservation area, the Himalayan Zoological Park is another important birding destination in the state capital Gangtok. We are also designing a Walk-in Aviary at Rabdentse Forest in West Sikkim along international lines in keeping with our claim to fame as an ecotourism destination. The Sikkim Ornithological Society is a local NGO which has already established two Bird clubs at Pelling and Yambong Valley in West Sikkim aimed at initiating local youth into new employment ventures as nature guides and bird guides.

I acknowledge the efforts put in by Usha Lachungpa, Senior Research Officer (Wildlife) and others officers of my department in collaborating with Bombay Natural History Society and international organizations RSPB, BirdLife International and Indian Bird Conservation Network (IBCN) in bringing out this first edition of the Important Bird Areas of Sikkim. I wish to get more and more information from the various ornithologists, and other eco-friendly visitors to our wonderland, which will benefit us for better conservation of this unique hotspot of biodiversity.

(D. B. SHRESHTA, IFS)
PCCF cum Secretary, Forests

PREFACE

Bombay Natural History Society published the national book 'Important Bird Areas in India: Priority Sites for Conservation' in 2003. Thanks to the persistence of Dr. Rahmani, Director of BNHS the Sikkim chapter saw the light of day. After spending almost two decades roaming what my friends know as 'your Sikkim wonderland', it was not difficult to try segregating Sikkim into eleven important bird areas or IBAs based on their unique features, natural flyways and altitudinal niches or eco-regions. It also helped that most of the state is under the wildlife protected area network. This book however is not a conventional bird identification book or any attempted revision of Dr. Salim Ali's book. It lists the important birds of each of the areas with notes on the other fauna as well as pertinent conservation issues for each of the sites. The title of the book 'Important Bird Areas of Sikkim: Priority Sites for Conservation' is clear on this.

The Government of Sikkim saw it fit to recognize these 11 IBAs in 2003 and announce this during the international Centenary Seminar of the Journal of BNHS in November 2003 in Mumbai. We were the first state in India to do so. The national IBA book is a valuable but heavy tome and Dr. Rahmani was keen that each state has their own book which could be then more accessible to the policy makers and general public as well as academicians. While we are justifiably proud of Dr. Salim Ali's book 'Birds of Sikkim' over four decades ago, there were no major publications since, and despite the fact that for its size Sikkim is perhaps the richest in bird species in the world after the Andes.

This book would not have been possible without the enthusiastic support of Mr. Chezung Lachungpa IFS who when he was Conservator of Forests (Wildlife) and later as CF (Land Use & Environment) saw the Sikkim chapter in the national book and insisted that I go ahead with the State book while he would look for the funding. This enthusiasm was carried forward by our dynamic Divisional Forest Officer (WL) Mr. Karma Legshey SFS who effortlessly coordinated the funding procedures in making the publication of the Sikkim IBA book a reality, besides helping out with the all important map. Then other Wildlife DFOs Mr. J. B. Subba SFS and Mr. N. W. Tamang SFS also pitched in with their support. Dr Rahmani and Zafar kindly sent all the necessary materials by post and e-mail, and Mr. Abhijit Malekar patiently and efficiently responded to my every query. Thanks to Dr. Rahmani, some of the best photographers of Indian birds freely lent their pictures for our Sikkim book. They are gratefully acknowledged right at the beginning of this book.

Some of the material in the book has been updated and also made more user-friendly. This book is a lot more pictorial thanks to various dedicated photographers like Otto Pfister, Peter Lobo, Dipankar Ghosh, Sumit Sen, Ganden Lachungpa, Pranav Chanchani, Sandeep Tambe and so many enthusiasts. Carl D'Silva, perhaps India's best bird artist gifted two of his illustrations for the book. Thanks to the efforts of Lukendra Rasaily and Karma Takapa of the NGOs Sikkim Ornithological Society (SOS) and Sikkim Development Foundation and with help from Rajendra Suwal and Sherab Wangdi, we could also add six plates with 74 common birds beautifully illustrated by Hira Lal and Sharada Dangol and with local names in Nepali.

Since this is the first such effort there are bound to be some inaccuracies and since perfection is always a goal, I would be grateful for any suggestions, corrections and critiques to be pointed out for any further revisions.

Usha Ganguli-Lachungpa
Sr. Research Officer (WL)

BACKGROUND

Otto Pfister

More than 1200 species of birds are found in India, including some spectacular species such as the Bar-headed Goose ***Anser indicus***.

INDIA: GENERAL INFORMATION

India is situated north of the equator between 8° 4' and 37° latitude and 68° 7' and 97° 25' longitude, and is bounded on the southwest by the Arabian Sea and on the southeast by the Bay of Bengal. To the north and northeast lies the mighty Himalayan range. To the west lies Pakistan and to the east, Bangladesh and Myanmar. In the north, China (Tibet), Nepal and Bhutan share the international boundary with India. To the south Sri Lanka shares the maritime boundary and is separated from India by a narrow channel of the Bay of Bengal formed by the Palk Strait and the Gulf of Mannar (Mathew 2003).

India is one of the largest countries of the world and covers an area of about 3,287,263 sq. km. It measures 3,214 km from north to south and 2,933 km from east to west with a land frontier of 15,200 km and a coastline of 7,516 km. The mountain ranges such as the Himalayas in the north, the Aravallis in the west, the central highlands of the Vindhyas and Satpuras and the Eastern and Western Ghats in the east and west, comprise several sub-mountain tracts of varied lengths and heights that support diverse flora and fauna.

India is a vast country with varied climatic conditions. It has three climatic

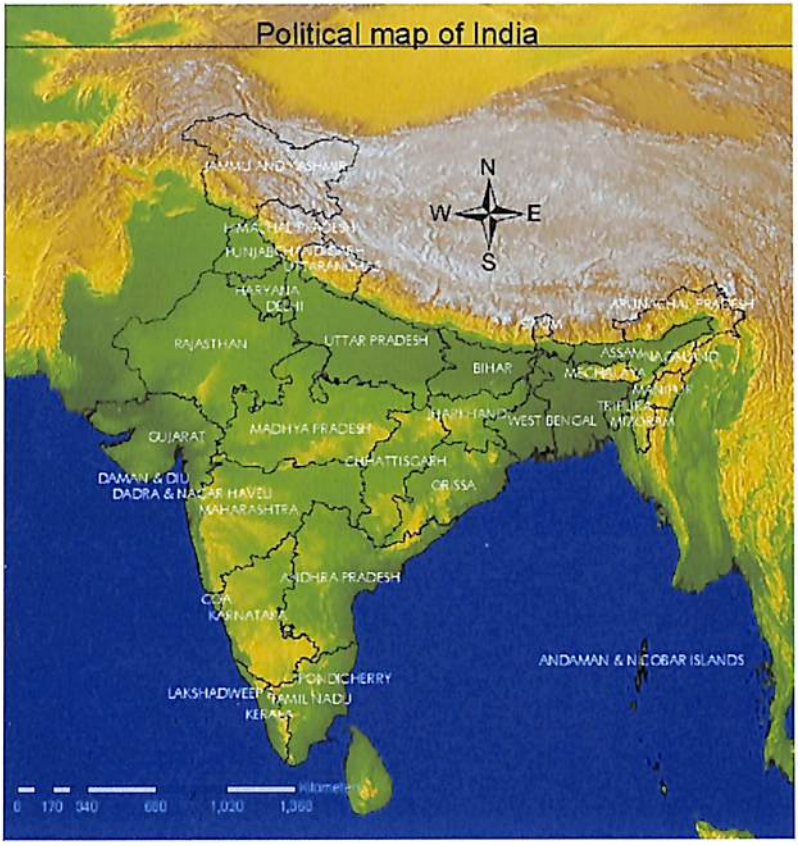
seasons in a year - monsoons (June-September: southwest monsoon; October-November: northeast monsoon), summer (April-July) and winter (October - March). However, in south India, the winter is not as cold as in north India. The 'winter' is marked by clear skies, hot days and cool nights. This kind of weather prevails from September to March. The southwest monsoon sets in over Kerala in June and it progresses towards the north and envelops the entire country by the end of July. The eastern coastal regions – the coasts of Andhra Pradesh and Tamil Nadu - experience the northeast monsoon between October and November. Along the east coast, this period is marked by cyclones due to severe atmospheric depression in the Bay of Bengal and the Indian Ocean that moves towards the mainland at a high speed, which causing widespread destruction to life and property. The west coast rarely experiences such cyclonic effects. The annual average rainfall in India varies from a low of 50 mm in the extreme western parts of Jaisalmer bordering Pakistan, to a high of 11,000 mm in the Cherrapunjee region of Meghalaya. Similarly, the temperature also shows high variability – more than 50 °C in the Thar desert to minus 50 °C at Siachen in Jammu and Kashmir.

The first census of human population in India was conducted in 1872. Since then, 1881 onwards, this exercise has been carried out once in 10 years. At the time of India's Independence in 1947, the population was 340 million. By 1981, it rose to 685 million and by 1990, to 844 million. Compared to 1971, the population has increased by 25%. In 1971, the human density was 216 per sq. km, with a high of 655 in Kerala and a low of 8 in Arunachal Pradesh. As per the 1991 census, the average human density has further risen to 273 persons per sq. km. By 2001, India's population has crossed the one billion mark! The population has trebled in the 54 years of India's Independence, with an annual rise of about 18 million people. The projected human population growth by 2050 is between 1.4 and 1.5 billion.

Biodiversity

India, a mega-diversity country, is among the top ten nations endowed with the world's richest biodiversity. Its immense biological diversity represents about 7% of the world's flora and 6.5% of the world's fauna. There are about 614 species of amphibians and reptiles, 1,225 species of birds and 350 species of mammals in India. Among the larger animals, 173 species of mammals, 78 species of birds and 15 species of reptiles are considered threatened. A large range of species inhabits the country's various habitats, from its crowded and colourful coral reefs to the icy alpine grasslands. We have very little information on the biology of the vast majority of these organisms. There are many species that have not even been named by science. Their value to India's human population, as sources of useful genes, as food or medicine, or as essential parts of ecological systems, has hardly been studied.


Globally Threatened Black-necked Crane
Grus nigricollis is called 'Tung-Tung' in Ladakh and Sikkim
Otto Pfister



The geographical designations employed do not imply the expression of any opinion whatsoever on the part of IBCN: Bombay Natural History Society concerning the legal status of any state/country, territory or area, or concerning the delimitation of its frontiers or boundaries.

Major vegetation types of India and characteristic floral elements

Dr. G. S. Rawat

Sr. No.	Vegetation Type and Geographical Location	Characteristic / Dominant Species
1.	TWE Andaman and Nicobar Islands	*Dipterocarpus* spp., *Calophyllum soulattri, Mangifera sylvatica, Myristica* sp., *Calamus palustris*
2.	TWE (Western Ghats)	*Dipterocarpus indicus, Humboldtia brunonis, Cullenia exarillata, Ficus* spp., *Palaquium ellipticum, Myristica malabarica*
3.	TWE (Northeast India)	*Dipterocarpus macrocarpus, Artocarpus chaplasa, Livistonia jenkinsiana, Ficus* spp., *Alpinia* spp., *Phrynium* sp.
4.	TSE (Transitional)	*Ficus* spp. , *Dillenia pentagyna, Garuga pinnata, Toona ciliata*

5.	TMD (Moist Teak) Indian Peninsula	*Tectona grandis, Xylia xylocarpa, Terminalia crenulata*
6.	TMD (Moist Sal) Upper Gangetic Plains	*Shorea robusta, Terminalia alata, Dalbergia sissoo, Acacia catechu*
7.	TMD (Peninsular Sal) Deccan Plateau	*Shorea robusta, Madhuca indica, Syzygium operculatum, Symplocos* sp.
8.	Mangroves Coastal region	*Heriteria fomes, Avicennia marina, Nypa fruticans*
9.	TDD (Dry Teak) Deccan Plateau	*Tectona grandis, Terminalia alata, Anogeissus latifolia*
10.	TDD (Southern) Semi-arid	*Albizzia amara, Hardwickia binata*
11.	TDD (Savannah) Semi-arid	*Prosopis cineraria, Zizyphus mauritiana, Butea monosperma*
12.	TDD (Northern) Semi-arid	*Acacia senegal, Anogeissus pendula, Zizyphus mauritiana*
13.	TTF (Southern) Deccan	*Acacia* spp., *Carissa opaca, Ixora* sp.
14.	TTF (Northern) Semi-arid	*Zizyphus nummularia, Salvadora oleoides*
15.	TDE East Coast	*Manilkara hexandra, Chloroxylon swietenia, Strychnos nux-vomica*
16.	MWT (Shola) Western Ghats	*Gordonia obtusa, Meliosma arnottiana, Schefflera* spp.
17.	SBH (Eastern Himalayan Foothills and NE Hills)	*Lauraceae, Meliaceae, Annonaceae, Dendrobium* spp., Tree ferns
18.	SPF Himalayan region	*Pinus roxburghii, Themeda anathera*
19.	HWT Eastern Himalayas	*Magnolia griffithii, Altingia exelsa, Lauraceae, Meliaceae, Begonia* spp.
20.	HMT (Broadleaf) Eastern Himalayas	*Quercus* spp., *Acer, Ilex,* Mosses and Lichens
21	HDT (Conifer) Western Himalayas	*Pinus wallichiana, P. gerardiana, Juniperus macropoda*
22	SAF Western Himalayas	*Betula utilis, Rhododendron campanulatum, Quercus semecarpifolia*
23	AMS Western Himalayas	*Juniperus pseudosabina, Rhododendron anthopogon, Lonicera* spp., *Salix* spp.
24	ADS Trans-Himalayas	*Caragana versicolor, Ephedra gerardiana, Tanacetum* spp.

TWE = Tropical Wet-Evergreen Forests, TSE = Tropical Semi-Evergreen, TMD = Tropical Moist Deciduous, L/S = Littoral / Swamp Forest, TDD = Tropical Dry Deciduous, TTF = Tropical Thorn Forest, TDE = Tropical Dry Evergreen, MWT = Montane Wet Temperate, SBH = Subtropical Broadleaf Hill, SPF = Subtropical Pine Forest, HWT = Himalayan Wet Temperate, HMT = Himalayan Moist Temperate, HDT = Himalayan Dry Temperate (Coniferous), SAF = Sub-Alpine Forests, AMS = Alpine Moist Scrub, ADS = Alpine Dry Scrub

Asad R. Rahmani

The cold deserts and wetlands of the Trans-Himalayas are ecologically very fragile and need imaginative conservation planning.

Asad R. Rahmani

The Himalayas are famous for high cultural, scenic, floral and faunal diversity.

M. Zafar-ul Islam

The Thar desert has more than 500 species of plants.

Asad R. Rahmani

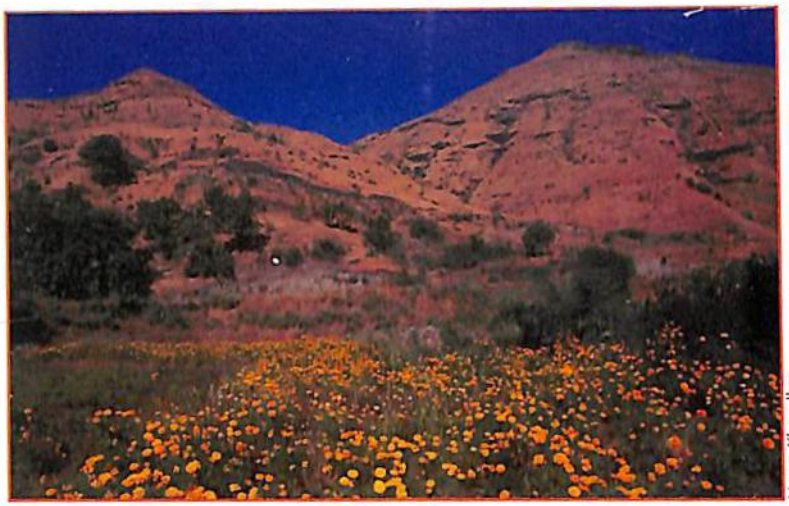
Probably less than 1% of the original semi-arid dry grasslands survive.

Isaac Kehimkar

The Western Ghats, comprising only 5% of India's area, harbour 27% of its total flora.

Asad R. Rahmani

The Western Ghats is one of the biodiversity hotspots of the world.



Nayan Khanolkar

The Deccan still has extensive tracts of Dry Deciduous forest, important for large vertebrates.

M. Zafar-ul Islam

The Gangetic Plains have highly productive wetlands, important for people and birds.

Hira Punjabi

The Sunderbans of India and Bangladesh are the largest mangrove forests in the world.

Anwaruddin Choudhury

Despite shifting cultivation (*jhuming*), the Northeast still has some of the most pristine forests left in India.

M. Zafar-ul Islam

Original primary forest is intact in some of the tribal reserves of Andaman and Nicobar Islands.

AVIFAUNA OF INDIA

The Sarus Crane *Grus antigone* once a common bird across rural India is today endangered.

The Indian subcontinent, a part of the vast Oriental biogeographic region, is very rich in biodiversity. Out of the more than 9,000 birds of the world, the Indian subcontinent contains about 1,300 species, or over 13% of the world's birds (Grimmett *et al.* 1998).

This subcontinent, rich in avifauna also boasts of 48 bird families out of the total 75 families in the world. However, while two families -Asiatic barbets *Megalaimidae* and Leafbirds *Irenidae* - occur in the Oriental region, the rest of the bird families are found in other biogeographical regions of the world too. The Oriental region is also the centre of radiation for many bird groups such as the pheasants, laughingthrushes, drongos, leafbirds, pittas, parrotbills and flowerpeckers.

Being a physical part of Asia, India is least limited by geographical barriers, thus it has acted as a centre of dispersal of species as well as has received species from the Palaearctic, Ethiopian, Indo-Chinese and Indo-Malayan subregions. But the dominant groups of birds in India belong to what is sometimes called the 'Indo-Chinese' fauna, the birds adapted to life in the warm, moist tropical southeast Asia, birds primarily of jungle or heavy forests (Ali and Ripley 1987). The geographical ramifications of southeast Asia, the tangled patterns of mountain chains, river drainage systems and a long period of stable climate seem to have been ideal for the evolution of a wide array of species of birds (Ali and Ripley 1987).

Ali and Ripley (1987) consider 176 species of birds endemic (local) to the Indian subcontinent. Of these 30 (17%) have affinity to the Palaearctic species (i.e. are related to birds found in Europe and temperate Asia), 109 (62%) are related to Indo-Chinese species (i.e. southeast Asian species), another 30 are related to Ethiopian (African) species, and the rest show no clear-cut affinity. Thus the overwhelming proportion of the Indian bird species are related to species of the tropical Oriental region, with an equal number of endemic species having their origin in the Palaearctic and Ethiopian regions.

Grimmett *et al.* (1998) have shown that the Indian peninsula is home to many bird families (or other distinctive groups of birds) where the majority of the species of the family or group are found in this subcontinent. For instance, 71% of the treecreepers (Certhiinae), 62% of accentors (Prunellinae), 55% of laughingthrushes (Garrulacinae) and 50% of ioras (Aegithininae) are found in the Indian subcontinent. Similarly, 37% of the barbet and 38% of the drongo species of the world are seen in India.

As the birds are comparatively large, conspicuous and popular, it was thought unlikely that new species will be discovered, especially in the Indian subcontinent, which has been thoroughly researched during the last 200 years. Most of the recent discoveries of birds have been in the jungles of Africa or tropical America. However, in 1991, a small secretive Wren Babbler, named Nepal Wren Babbler *Pnoepyga immaculata* was first described to science from the Himalayan forest of Nepal (Martin and Eck 1991). Suresh Kumar and Pratap Singh (1999) of the Wildlife Institute of India have found a new subspecies of Sclater's Monal *Lophophorus sclateri* in Arunachal Pradesh near the Indo-Chinese border. First they found an odd tail feather and then in October 1998, they had nine sightings of this strange bird at 4,000 m within one km of Pakdung camp. Most recently the Bugun Liocichla *Liocichla bugunorum* was discovered from the Bugun tribe's community forest in Arunachal Pradesh by professional Indian astronomer Ramana Atreya (Atreya 2006).

Recently, Rasmussen and Anderton (*in press*) have described nearly 120 new taxa from the Indian subcontinent, mostly subspecies were elevated to the species level. For instance, the two subspecies of the Indian Long-billed vulture *Gyps indicus indicus* and *G. indicus tenuirostris* have been made full species, with the former now known as Long-billed vulture *G. indicus*, and the latter, Slender-billed vulture, *G. tenuirostris*. Some of the upgraded species of Rasmussen and Anderton have very narrow and restricted range distribution, and some of them are Critically Endangered, as for example the Slender-billed Vulture (BirdLife International 2001). One of the main reasons for high avian diversity in India is the presence of diverse habitats, from the arid cold desert of Ladakh and Sikkim to the steamy, tangled jungles of the Sunderbans to the wet, moist forests of the Western Ghats and Arunachal Pradesh. Rodgers and Panwar (1988) of Wildlife Institute of India divided India into ten major biogeographical zones: Trans-Himalayas, Himalayas, Desert, Semi-Arid, Western Ghats, Deccan Peninsula, Gangetic Plains, Northeast, Islands and Coasts. This is not a strictly biogeographical classification as it was done for the sake of identifying new protected areas that are under-represented in the protected area system of India. We have followed this classification for describing the avifauna of India.