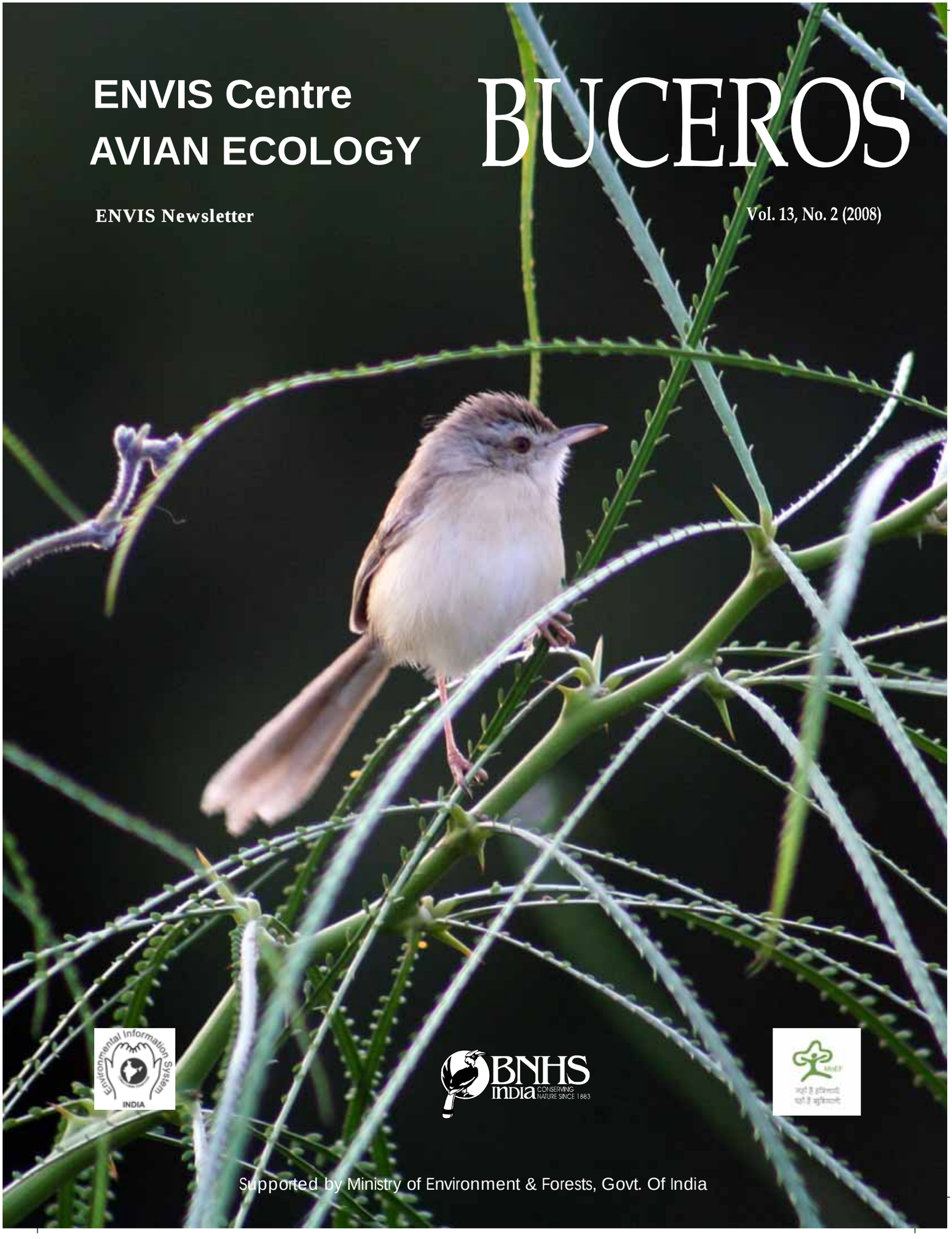

ENVIS Centre AVIAN ECOLOGY

BUCEROS

ENVIS Newsletter

Vol. 13, No. 2 (2008)

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ENVIS

ENVIS (Environmental Information System) is a network of subject specific centers located in various institutions throughout India. The Focal Point of the present 78 ENVIS centres in India is at the Ministry of Environment and Forests, New Delhi, which further serves as the Regional Service Centre (RCS) for INFOTERRA, the global information network of the United Nations Environment Programme (UNEP) to cater to environment information needs in the South Asian sub-region. The primary objective of all ENVIS centres is to collect, collate, store and disseminate environment related information to various user groups, including researchers, policy planners and decision makers.

The ENVIS Centre at the Bombay Natural History Society was set up in June 1996 to serve as a source of information on Avian Ecology and Inland Wetlands.

Cover: Plain Prinia
Prinia inornata
by Sujit Narwade

Cover design and Page layout: Sujit Narwade & Sagar Satpute ENVIS, BNHS.

Bombay Natural History Society,
Hornbill House, S.B. Singh Road,
Mumbai 400 001, Maharashtra, India.
Tel.: (91-22) 2282 1811,
Fax: (91-22) 2283 7615
E-mail: bnhs@envis.nic.in
Website: www.bnhsenvis.nic.in

C O N T E N T S

BNHS CELEBRATES 125 YEARS

On 15th September BNHS completed 125 years. It all started as an idea when 8 citizens of Mumbai first met on 15th September 1883, at the Bhau Daji Lad Museum at the Jijabai Bhosle Udyan at Byculla to form BNHS. Among those 8 founder members, Dr. Atmaram Pandurang and Dr. Sakharam Arjun were Indians. Today BNHS is India's premier institution and foremost non-governmental organization in nature conservation. It is the only voluntary organization in the country, which has a sustained uninterrupted tradition of scientific research, education and conservation activities.

The Society's history has two facets: the Pre-Independence Society was predominantly a Society of the British and the Maharajas and post-Independence when the Society become more open and accepted members from all strata who are concerned with conserving nature in India.

With knowledge based on years of research and experience in conservation education, BNHS aims to influence decision making process in matters related to environment protection, conservation of nature and education. BNHS is already working towards making the key decision-makers from corporate and financial institutions aware of the need to work towards ecological security, to ensure a healthy development of the nation. With plans to reach across the country, the BNHS plans to launch an awareness programme to make people aware of the need to conserve natural resources, and use them sustainably for harmonious co-existence with nature.

Among the future plans, BNHS proposes to have permanent field research stations in East, West, South and North Zones of the country. This will enable BNHS to work more effectively at local level, often in collaboration with local agencies and state governments. BNHS is in the process of strengthening the existing database and facilitate access to information to all who are working towards conserving biodiversity of this region. This database will be made available through a network such as the Indian Bird Conservation Network, to other information centers, environment NGOs, industries and government.

Warm welcome to chief guest Mr. Vilasrao Deshmukh, Chief minister of Maharashtra, at the inaugural function of 125th year's celebration on 15th Septembr 2008 by Dr. Asad R. Rahmani, Director, Mr. B.G. Deshmukh, President, Mrs. Pheroza Godrej, Vice President, Mr. J.C. Daniel, Secretary from BNHS

Mrs. Pheroza Godrej, Vice President, BNHS gifted a set of publications of the BNHS to chief guest Mr. Vilasrao Deshmukh, Chief minister of Maharashtra

Mystery killer strikes Peafowl

Twenty-seven Peafowls, 11 Peacocks and 16 Peahens — have been found dead under unexplained circumstances in third week of August 2008 in the farmlands of Khedkar Wasti, about two kilometers from Ranjangaon in Shirur taluka, Pune District, Maharashtra. It is suspected that the birds died of poisoning. Villagers in Ranjangaon have asked the forest department to check whether emissions from the factories in Ranjangaon MIDC (Maharashtra Industrial Development Corporation) were affecting local peafowls. A team of police and forest officers recovered 5 dead Peacocks and 12 Peahens from the farms. The forest officers found some food grains near the dead birds. Samples of the food grains and soil around the carcasses were sent to the Forensic Science Lab (FSL) in Pune. The forest officers are waiting for the laboratory results.

For more details: http://www.expressindia.com/latest-news/Mystery-killer-strikes-peafowl/352734/

Spurt in Peafowl deaths worries conservationists

According to Asia News International (ANI) report on 19th March 2008 fourteen peafowls perished mysteriously in Bulandshahar, a town of Uttar Pradesh. Veterinary officials fear that the rampant use of insecticides may have caused unexpected deaths. Officials found the carcasses of over 14 peafowl in Mirzapur village of the town also. The spurt in peafowl deaths has also got conservationists in Rajasthan worried. In less than two weeks, 30 peafowls have been found dead in Rajasthan, says a CNN-IBN report. 21 Peafowls have been found dead in Salodi village near Jodhpur and if that was not bad enough, 9 more have been killed by poachers in Bundi village. Experts say these are not isolated episodes. Eleven Peafowl found dead in Punjab were killed by food contaminated with pesticides. Nine Peahens and two Peacocks died in Ladhowal forest area near Ludhiana in last week of December 2006. The union government's Department of Animal Husbandry later ruled out the possibility of Bird Flu. An initial analysis of the Peafowl samples by the High Security Animal Disease Laboratory in Bhopal found traces of pesticides in the samples.

For more details: http://wildlife.newswatch.in/news/1327http://www.downtoearth.org.in/full.asp?foldername=20080215&filename=news&sid=17

Migratory birds in Kashmir hit by freezing conditions

The cold wave in Kashmir has made life difficult for the migratory birds that frequent Hokersar wetland here every year. At Hokersar wetland, located 16 kilometers north of Srinagar, the wildlife officials are striving to ensure a suitable environment for migrant birds. The water here gets frozen to a large extent and the birds who come here always find it very difficult to use these wetland reserves. According to Rouf Zargar, wetland warden at Hokersar Wetland these birds feed during the night in the reserves. The wetlands freeze at night due to low temperature and remain in this condition up to the early morning. Birds experience great difficulty to feed and they go to other wetland reserves like Wular Lake. Therefore field employees at Hokersar Wetland are directed by officials to break the ice in the morning on an experimental basis. It might provide feeding points for the birds after the cold wave freezes many water bodies, including the famous Dal Lake in Srinagar.

For more details: http://story.indiagazette.com/index.php/ct/9/cid/701ee96610c884a6/id/315054/cs/1/

International News

Local increase in Vultures thanks to diclofenac campaign in Nepal

The number of Indian White-backed Vulture *Gyps bengalensis* and Slender-billed Vulture *Gyps tenuirostris* nests recorded west of Narayani Chitwan National Park, buffer zone area, Nawalparasi District, Nepal, has doubled in two years, as a result of measures taken to reduce and replace the use of a drug toxic to vultures. A study of 11 of 75 administrative districts of Nepal by Bird Conservation Nepal (BCN - A BirdLife Partner) finds that the use of diclofenac has dropped by 90 per cent since 2006. Thanks to work by BCN and its partners, notably the Nepalese government (Department of Drug Administrative and Department of National Parks and Wildlife Conservation). In a further attempt to conserve vultures, BCN has established a community-run Jatayu (Vulture) Restaurant at Pithauli, Nawalparasi district. The entire management of this restaurant, which provides vultures with cattle carcasses known to be uncontaminated with diclofenac, is done by the local community with technical support from BCN, and financial support from the United Nations Development Programme's Global Environment Facility and RSPB (Royal Society for Protection of Birds).

For more details: http://wildlife.newswatch.in/news/1019

Taxonomical challenge for researchers: Long-held assumptions of flightless bird evolution challenged by new research

Large flightless birds of the southern continents - African Ostriches, Australian Emus and Cassowaries, South American Rheas and the New Zealand Kiwi - do not share a common flightless ancestor as once believed. Instead, each species individually lost its flight after diverging from ancestors that did have the ability to fly, according to new research conducted in part by professor Edward Braun, deparment of Zoology, University of Florida. First, it means some ratites, like the Emus, are much more closely related to their airborne cousins, the tinamous, than they are to other ratites. Second, it means the ratites are products of parallel evolution - different species in significantly different environments following the exactly same evolutionary course. Scientists assumed that a single flightless common ancestor of the ratites lived on the super continent of Gondwana, which slowly broke up into Africa, South America, Australia and New Zealand; once divided, the ancestor species evolved slightly in each new location to produce the differences among the present-day ratites. But in the light of this new information, it's more likely that the ratites' ancestors distributed themselves among the southern continents after the breakup of Gondwana, which began about 167 million years ago, in a much more obvious way. The scientists' effort to analyze such a tremendous amount of genetic material collected from birds across the globe is in turn just a single part of a program called "Assembling the Tree of Life".
For more details: http://www.sciencedaily.com/releases/2008/09/080903172152.htm

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Birds move farther north; climate change link considered

A study by researchers at the SUNY College of Environmental Science and Forestry (ESF) has documented, for the first time in the northeastern United States, that a variety of bird species are extending their breeding ranges to the north, a pattern that adds to concerns about climate change. The study compared data collected during the State Department of Environmental Conservation's Breeding Bird Atlas census, which engaged thousands of citizen volunteers to observe and report the birds they could identify.

For more details: http://www.sciencedaily.com/releases/2008/08/080808182238.htm

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New bird species discovered in Gabon, Africa

Scientists at the Smithsonian Institution have discovered a new species of bird in Gabon, Africa, that was, until now, unknown to the scientific community.

The newly found Olive-backed Forest Robin *Stiphrornis pyrrholaemus* was named by the scientists for its distinctive olive back and rump. Adult birds measure 4.5 inches in length and average 18 grams in weight. Males exhibit a fiery orange throat and breast, yellow belly, olive back and black feathers on the head. Females are similar, but less vibrant. Both sexes have a distinctive white dot on their face in front of each eye. Brian Schmidt, a research ornithologist at the Smithsonian's National Museum of Natural History collected the specimen and geneticists at the Smithsonian's National Zoo compared the DNA of the new specimens to that of the four known Forest Robin species. The results clearly showed that these birds were in fact a separate and distinct species. Although finding an unknown species like the Olive-backed Forest Robin was not the goal of the MAB project it is definitely a reminder that the world still holds surprises for us. These findings were published in the international science journal Zootaxa (Aug. 15)

For more details:
http://www.eurekalert.org/pub_releases/2008-08/s-ssd081508.php

A male Olive-backed Forest Robin
Stiphrornis pyrrholaemus
(Credit: Brian Schmidt)

Birds' harmonious duets can be 'aggressive audio warfare'

Researchers reporting in the "Current Biology" (Sep. 4), have new insight into the motivating factors that drive breeding pairs of some tropical bird species to sing duets. Those duets can be so closely matched that human listeners often mistake them for solos.

They now report evidence that male and female Rufous and White Wren partners sing as a way of keeping track of one another when they are apart. But the duets, as pleasant as they may sound, also have a more sinister purpose. During confrontations with rivals, the wrens essentially duel one another with their duets.

The discovery was made possible by sophisticated sound recording technology developed by the University of Windsor and Cornell University team. That system, including eight microphones recording to a single laptop computer, allowed them to triangulate the duetting birds' positions in the dense tropical forests of Costa Rica where they live.They confirmed that birds do coordinate their activities by performing duets. But there is a darker side to duetting; tropical birds also perform duets in very aggressive contexts, and respond with special aggression to rival individuals of the same sex. Their voices are beautiful harmonies, but they're also aggressive audio warfare.

For more details: http://www.sciencedaily.com/releases/2008/09/080904144821.htm

Red-wattled Lapwing *Vanellus indicus* in agriculture landscape

Sujit Narwade and Madhukar Fartade

Red-wattled Lapwing *Vanellus indicus*

A group of more than thirty Red-wattled Lapwings *Vanellus indicus* were roosting near the drying bed of an irrigation tank in Masla village, district Osmanabad, Maharashtra (17°58'6.56"N 76° 1'6.33"E). It was early summer in 2007 and it was the first time we had spotted Red-wattled Lapwings in such large numbers. which ignited our curiosity towards this bird. From review of available literature on ecology of Red-wattled Lapwings we noted that during summer the birds stay near the drying lakes to keep themselves cool.

This incident lead to the initiation of a study on the effect of agricultural practices on the breeding ecology of Lapwing. Extensive study of farmland birds has been carried out in the UK with special reference to the Northern Lapwing *Vanellus vanellus*. It has been proved by a number of scientists that the global population of farmland birds is declining due to changing agricultural practices and land use pattern. For example, population of Northern Lapwing has declined in the UK by almost 50% since 1970. In 2004, Birdlife International categorised the Sociable Lapwing *Vanellus gregarius* as critically endangered, due to rapid population decline from poorly understood reasons. According to BirdLife International, in 2006, the population of Sociable Lapwing represents only 20-25% of the 1930s total population. Therefore, we selected the Red-wattled Lapwing as one of the farmland bird to study its association with agriculture practices.

The major crops in this area are Jowar *Sorghum vulgare*, Groundnut *Arachis hypogaea*, Sugarcane *Saccharum officinarum*, Maize *Zea mays*, Grapes *Vitis vinifera* and various pulses. In many places the traditional crops are replaced by cash crops such as Sugarcane and Vine grapes. 'Monsoon' the major cropping season arrives in June and recedes till September; and harvesting is carried out during January-February. Most of the land except under sugarcane cultivation and grape fields is fallow after harvesting during summer. Breeding activity of Red-wattled Lapwing was observed from mid-summer until the onset of monsoon. The activity of mate and nest site selection was observed from early summer. Breeding activity of Lapwings observed to be fluctuated with the amount and duration of rain.

Roosting place for Lapwing and Spoonbills *Platalea leucorodia*

These birds spend more time foraging in the early morning, evening and even throughout the night in farmland area surrounding the lake. Roosts of Lapwings were seen at the drying bed of the lake during afternoons in the breeding season. Flat bare area was preferred for nesting from where they can keep watch over the surroundings. Nests are usually sited on waste or stony land, fallow fields, and dry bed of the lake, avoiding the areas with thick and tall vegetation. One of the crucial factors is the distance between nests. The birds are benefited by the characteristic alarm calls of their neighbours.We observed that the distance between the nest and the water generally not more than 300 meters. Drying bed of lake is preferred for easy access to water for wetting the eggs and keeping themselves cool. Chicks usually observed feeding in muddy bed of lake along with parents just a couple of days after hatching. Juveniles, sub-adults and immature can be observed along with parents even in subsequent breeding season.

At day time Lapwing spends most of the time standing on a rock near stream or bund separating fields

Lapwings chasing Brahminy Kite

During non-breeding season their roosts were observed near the edge of lake on the flat, open area with very few dwarf grasses.

Dogs and grazing cattle disturb the breeding Lapwings

Lapwings commonly get disturbed by the presence of predator birds such as Brahminy Kite *Haliastur indus*, Black Kite *Milvus migrans*, House Crow *Corvus splendens*, Jungle Crow *Corvus macrorhynchos* and Shikra *Accipiter badius* as well as mammals like Dog, Jackal *Canis aureus,* Indian Fox *Vulpes bengalensis* and Indian Grey Mongoose *Herpestes edwardsi*. Tolerance to the humans and some other birds to a certain extent was observed by the Lapwings.

Some of the popular myths about this bird are, the call of a Lapwing flying over the house at night brings bad news. People also think that eating the eggs of this bird reduces sleep considerably. However there is good news for Lapwing! People know that the Lapwing feeds on insects and works as a kind of biological pest control. It also alerts farmers about animals like snakes, Wolf, and Jackal by their alarm call. Thus farmers call this bird as their friend. Even they try to avoid the nest site at the time

of ploughing if any nest comes in the way. Height at which Lapwing builds its nest is believed to be an indicator of amount of rainfall in particular season. Nest at a greater height means more rainfall would occur.

Juvenile of Red-wattled Lapwing

Red-wattled Lapwing in farmland

Scientific information, especially on ecological and behavioural aspects is the key to long term conservation of any species. Hence, the proposed study and findings will be of significance in the management of species and designing a management plan for the habitat protection with respect to agricultural sector. For example the land under sugarcane cultivation has decreased from hundreds of acres to very few acres in 2007 as a consequence of mismanagement by sugar factories and low rainfall. In recent years, State Irrigations Department has developed small check dams. They are used in late winter and summer months for irrigation. Such development increased the arable land, but changed the cropping pattern. This affects the habitat availability for the Red-wattled Lapwings especially during the breeding season. Factors like temperature, rainfall, removal of the tall vegetation and grazing cattle population are very decisive in agriculture practices and ultimately affect the breeding success of Red-wattled Lapwing. Such factors also need to be studied carefully on a long term basis.

Sujit S. Narwade (Scientist-In-Charge, ENVIS, BNHS) (Previously worked in Lapwing project of Shri Shivaji Mahavidyalaya, Barshi, Solapur University, Solapur, Maharashtra.)

Dr. Madhukar M. Fartade (Principal, Shri Shivaji college, Barshi, Solapur University)

Website: www.lapwingindia.com

Advanced tools and techniques in ornithology

The days have gone when people need to collect and preserve the birds for further studies. Many bird species are on the verge of extinction and thus ornithological studies transformed from mere bird collection to genetic sequencing. Many researchers and bird lovers usually know the terms like DNA hybridisation or RADAR technologies, but are unable to find the details. So here we would like to start a series on the advanced tools and techniques used b y scientist in modern ornithology. A list of tools and techniques provided below will be followed in the following issues of Buceros. Brief overview with one or two case studies carried by scientists from all over the worls will be covered under each heading. We hope this will become useful for all bird lovers and may be helpful for researchers in planning their research.

Sr. No.	Tool / Technique	Applications
1.	DNA hybridization	Phylogenetics & Systematics
2.	Remote sensing & GIS	Mapping of habitat and to study the species richness and quantifying bird colonies
3.	DNA Bar-coding	Standard for identifying the species
4.	DNA markers, radar, electro-optical, and visual methods	To study migration of birds and to determine the affinity among breeding birds
5.	Radio telemetry	To track the movement of birds
6.	Forensic sciences	A common tool in Bird Hazard studies
7.	Calls and songs	Identification of birds and or in support of taxonomy
8.	Photography	Estimation of bird densities
9.	Radar ornithology	To measure the density of migrating birds
10.	New assay and matrix	for study of pesticide hazards to birds
11.	Camera trapping	Photo capturing even in absence of human
12.	Bird-feeder table, time-lapse video and artificial foods	To determine foraging decisions by birds damaging crops
13.	Flight Recorders	New technique for the Study of Bird Navigation
14.	Video shooting	To measure the speed of the bird
15.	Test on Feather	Helps in determination of bird Sex
16.	Technical measure of vegetation structure	To study best predictor of bird species
17.	Habitat management techniques	Bird conservation
18.	Footmarks	Study of rare and endangered birds
19.	Mist nets and point counts	Data will be used in bird distribution study
20.	Event recorder	New Bird Nest Monitoring Technique

Survey of the threatened Cheer Pheasant *Catreus wallichii* in Garhwal Himalaya

Bisht, M.S., S. Phurailatpam, B.S. Kathait, A.K. Dobriyal, Asha Chandola-Saklani and Rahul Kaul

From October 2000 to December 2001, a survey on distribution of Cheer Pheasant *Catreus wallichii* was conducted in Pauri and Chamoli districts Uttarkhand, India. Twenty-six sites in thirteen areas were identified to hold Cheer, between altitudes of 950-2,250m in the chir pine mixed forest. At all the sites, except Adwani Reserve Forest of Pauri Division, the density of Pheasant found was quite less (<2 birds/sq. Km.). Habitat destruction, due to fire, heavy grazing, fuel and fodder collection was apparent at most sites. Hunting, collection of egg and loss of brood due to fire were identified as main reason for population decline.

***J. Bombay Nat. Hist. Soc.*, (2007), Vol. 104 (2): pp. 134-139.**

Bird communities of the proposed Naina and Pindari wildlife sanctuaries in the Kumaon Himalaya, Uttarkhand, India

Sulatana, A., A. Shah Hussain & J.A. Khan

Two areas for avifauna, Vinaiyak and Pindari reserve forest in Kumaon, were surveyed in 1998 and 2000. A total of 165 bird species were recorded in Vinaiyak and 121 birds species were recorded in Pindari Reserve Forest. The diversity of bird species was highest in the oak habitat in Pindari both during pre-monsoon and post-monsoon seasons, while in Vinaiyak it was highest in the oak habitat during pre-monsoon. The insectivore guild was dominant over all other guilds in both areas. Conservation problems are discussed briefly and recommendations made.

***J. Bombay Nat. Hist. Soc.*, (2007), Vol. 104 (1): pp.19-29.**

New bird description without proper voucher specimen: Reflection after the *Bugun Liocichla* case

Ragupathy Kannan

A new species of *Liocichla* (Aves: Timaliidae) was recently described (Athreya 2006) without the submission of a proper voucher specimen. The author did not collect one on grounds that the specimen may be rare. The publication evoked dismay among museum ornithologists who feel that the species should not have been formally described and published without a voucher specimen, and that the bird may not be as rare as believed. There is also feeling outside of museum circles that the requirement of voucher specimens may be obsolete and that museum scientists are insensitive to conservation concern. This essay analyses this controversy and attempts to present the science behind this sensitive issue, to facilitate future decision making. Topics covered include: similar case in the past and the criticism they have evoked; why voucher specimen is indispensable for ornithological research and conservation; why there may be no viable alternative; how scientific collection makes little or no impact in most bird populations; whether bird journals should accept new description without proper voucher specimen; and how modern museum ornithologists are partners rather that adversaries in the cause of bird conservation.

***J. Bombay Nat. Hist. Soc.*, (2007), Vol. 104(1): pp. 12-18**

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BOMBAY NATURAL HISTORY SOCIETY

Founded in 1883 for the study of natural history, the Bombay Natural History Society (BNHS) is now one of the premier research and conservation organisations in the country. The Society publishes a journal, the Journal of the Bombay Natural History Society, devoted to natural history and also has a popular publication, Hornbill, for the layman. It has also published a number of books on wildlife and nature. Its library has a large collection of books and scientific journals on wildlife and the environment. The Society's invaluable collection of bird, mammal, reptile, amphibian, insect and plant specimens has been recognised as a National Heritage Collection.

Membership of the Society is open to individuals and institutions within India and abroad. For more details, please write to:

Membership Officer,
Bombay Natural History Society,
Hornbill House,
Shaheed Bhagat Singh Road,
Mumbai-400 001. INDIA.

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Address for correspondence

Project Coordinator
ENVIS Centre,
Bombay Natural History Society,
Hornbill House, Shaheed Bhagat Singh Road,
Mumbai - 400 001. INDIA.

Tel: (91-22) 22821811
Fax: (91-22) 22837615
Email: bnhs@envis.nic.in
Website: www.bnhsenvis.nic.in,
www.envisbnhs.org

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