



ইলাহি পরিষ্কার

ENVIS CENTRE MANIPUR Newsletter

DIRECTORATE OF ENVIRONMENT, GOVT. OF MANIPUR



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LEAD STORY

Threatened Birds of Manipur

- K. Jugeshor

Manipur (23°50'–25°44'N, 93°07'–94°45'E) is a small montane State in the extreme east of India. It shares an international border with Myanmar on the east, while the Indian States of Assam, Nagaland and Mizoram surround it on the west, north and south respectively. Manipur has the distinction of possessing a wide range of forest types, in a comparatively small area. The central valley has several natural lakes having typical swampy vegetation. The State lies in the juncture of Malayan and Indo-Chinese sub-region of the Oriental Zoogeographical Realm and within the Indo-Myanmar biological hot-spot.



K. Jugeshor
Principal, Kumbi College,
Kumbi, Manipur
e-mail:
jugeshor@yahoo.co.in

Birdlife of Manipur

Despite its size, avifauna of Manipur is very rich and colourful. The Mrs. Hume's Pheasant (*Syrnaticus humiae humiae*), the State bird of Manipur, is one of the most spectacular birds across the globe, particularly the male. Its courtship dance is magnificent. Locally called Nong-in, the bird is a symbol of love and affection to poets and lyricists all the time. Interestingly, around 666 of the 1300 species of Indian Sub-continent's birdlife are recorded in Manipur having only 0.68% of the country's land surface. The State provides shelter to several other terrestrial birds, like the Bulbuls, Cuckoos, Doves, Drongos, Eagles, Hawks, Hoopoes, Hornbills, Orioles, Owls, Parakeets, Partridges, Pheasants, Pigeons, Quails, etc. Every year, thousands of wintering Ducks, Cormorants, Gulls, Plovers, Sandpipers, Snipes, Terns, etc. from far-away places visited Loktak and other wetlands. These waterbodies are also the natural homes of various resident waterbirds, like the Bitterns, Egrets, Herons, Jacanas, Lapwings, Moorhens, etc.

Threat to Birds

Birds are in danger all over the world due to unprecedented human activities. As a result, survival of many significant and spectacular birds is seriously threatened. Today, nearly 11% of the world's birds face the same fate that befell the Dodo of Mauritius, the Passenger Pigeon of North America, Elephant Bird of Madagascar and the Pink-headed Duck of India. In 2001, out of 1224 bird species reported from India, 130 are at risk of extinction. According to an assessment by the BirdLife International and Bombay Natural History Society, 99% of the globally threatened bird species are at risk due to agriculture, logging, hunting, trapping and industry. The assessment also shows that tropical moist forests are particularly important for 70% of threatened forest species. Like forests, wetlands are also crucial for the survival of 20% of threatened species.

Threatened Birds of Manipur

As per IUCN Red List- BirdLife International List (Updated till November, 2013), around 55 bird species of the 666 so far recorded in Manipur are of conservation concern. Of the 55 species 4 are listed as Critically Endangered, 8 are Endangered and 15 Vulnerable. While, the remaining 28 Threatened species are closed to qualifying as Threatened. In short, 27 bird species of Manipur are now threatened with extinction. Amongst them Pink-headed Duck (*Rodonessa caryophyllacea*) is considered globally extinct,

though the species last reported from the State (Loktak) on 15th June, 1932.

Conservation concern

Birds are important to man in many ways. They control harmful insects, help in natural balance and dispersal of seeds and cross pollinate flowers. Crows and vultures are natural scavengers. Migratory waterbirds are considered as the best bio-indicators for diagnosing the health of a wetland. Many birds are intricately associated with local legends, folklores, etc. The disappearance of them from the globe is a grave challenge not only to biological diversity but also to our cultural heritage. Therefore, a world without birds is unthinkable! Establishment of new protected areas and extension of existing ones, enactment of new legislation, increased awareness, etc. are suggested actions to be taken up fast.



Pink-headed Duck

Image credit: Birds & Birding in India

LEAD STORY



Mrs. Hume's Pheasant
Image credit: Kh.Brajesh
State Bird of Manipur



White-rumped Vulture
Image credit: Birdfinders



Baer's Pochard
Image credit: Wikipedia



Red-headed Vulture
Image credit: Orangejact

Categories of Threatened Species

IUCN (International Union for Conservation of Nature) categorized the Threatened Birds species, as Extinct, Critically Endangered, Endangered, Vulnerable and Near Threatened.

Extinct: A species is extinct when there is no reasonable doubt that the last individual has died.

Critically Endangered: A species is Critically Endangered when it is facing an extremely high risk of extinction in the wild in the immediate future.

Endangered: A species is Endangered when it is not Critical but is facing a very high risk of extinction in the wild in the near future.

Vulnerable: A species is Vulnerable when it is not Critical or Endangered but is facing a high risk of extinction in the wild in the medium-term future.

Near Threatened: Species which do not qualify for Conservation Dependent, but which are close to qualifying for Vulnerable.

TIME SERIES ENVIRONMENT DATA

Water Quality of Major Lakes of Manipur during April-June 2015

Sl. No.	Parameters	Sites/Lake							
		1	2	3	4	5	6	7	8
1	pH	7.42	6.89	7.53	7.56	7.34	7.46	7.24	7.43
2	B.O.D. (mg/l)	4.58	5.19	3.87	4.27	3.97	4.07	4.17	5.19
3	C.O.D. (mg/l)	7.92	6.81	5.63	7.42	5.73	5.13	6.90	7.96
4	Nitrogen (mg/l)	1.34	1.03	1.23	1.42	1.24	1.14	1.28	1.30
5	Phosphorus (mg/l)	0.73	0.82	0.87	1.14	0.91	0.67	1.10	1.13
6	Potassium (mg/l)	3.00	4.33	4.33	4.00	5.33	4.33	5.67	5.67
7	Total Coliform / 100ml	245.10	208.06	261.50	312.05	274.12	263.12	280.23	284.31
8	Faecal Coliform	121.42	123.04	123.46	163.62	167.40	123.15	156.42	153.20

Sites:- 1. Aongbikhong 2. Heingang Pat 3. Ikop 4. Kharungpat 5. Loktak 6. Pumlen 7. Sanapat 8. Waithou pat

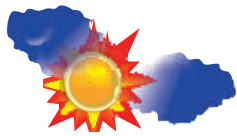
Source: Directorate of Environment, Govt. of Manipur

Water Quality of Major Rivers of Manipur during April-June 2015

Sl. No.	Parameters	Sites/River							
		Imphal River			Nambul River			Iril River	
		1	2	3	4	5	6	7	8
1	pH	7.24	7.54	7.68	7.23	6.40	6.59	7.44	7.30
2	B.O.D. (mg/l)	3.36	4.58	4.58	3.65	13.40	10.35	2.75	3.66
3	C.O.D. (mg/l)	4.68	6.97	8.35	5.23	22.46	28.64	2.54	3.67
4	Nitrogen (mg/l)	0.67	0.83	0.74	0.68	2.34	1.23	0.24	0.51
5	Phosphorus (mg/l)	0.38	0.59	0.62	0.56	1.38	1.03	0.18	0.41
6	Potassium (mg/l)	3.00	4.00	5.00	4.00	21.00	15.00	3.00	60.0
7	Total Coliform / 100ml	150	260	340	420	1800	1400	340	280
8	Faecal Coliform	80	180	210	260	890	700	140	250

Sites:- 1. Koirengai 2. Minuthong 3. Singjamei 4. Iroisemba 5. Hump Bridge 6. Hiyangthang 7. Sawombung 8. Lilong

Source: Directorate of Environment, Govt. of Manipur



Weather Report of Manipur during April-June 2015

Districts	Temperature in (°C)		Relative Humidity (%)		Wind Speed (mtrs/sec)	Total Rainfall (mm)
	Maximum	Minimum	Maximum	Minimum		
Senapati	33.46	12.31	100	25.57	2.72	433.1
Tamenglong	35.71	15.44	100	29.5	1.91	1175.62
Churachandpur	34.48	14.96	100	26.85	1.38	589.2
Ukhrul	28.66	13.8	100	41.37	2.25	8.8
Imphal East	37.41	14.32	100	26.85	1.38	230
Imphal West	34.74	14.6	95.92	28.58	2.43	21.8
Chandel	39.98	16.91	100	17.79	2.47	578.37
Thoubal	34.97	14	100	0.03	3.64	73.6
Bishnupur	33.69	15.34	98.14	22.87	1.61	144.6

1. Senapati District Headquarter 2. Tamenglong (Noney) 3. Churachandpur (Renkai village) 4. Ukhrul (Shirui village) 5. Imphal East (Yaralpat and Environment Office complex, Porompat) 6. Imphal West (Kangla) 7. Chandel (Moreh) 8. Thoubal (Kakching) 9. Bishnupur District Headquarter.

Source: Directorate of Environment, Govt. of Manipur

BIODIVERSITY OF MANIPUR

Crested Finchbill

Spizixoscanifrons Blyth, 1845

Local name: Khoiningchinjao

Order: Passeriformes Family: Pycnonotidae

Description: Length c. 20 cm. Slaty head and throat with whitish patch on sides of neck and pointed blackish crest. The pale yellow thick bill looks whitish in the field and very distinctive.

Habitat: Affects cut-over scrubs, semi-cultivation, deciduous and evergreen forests.

Distribution: Bishnupur, Churachandpur, Senapati, Tamenglong and Ukhrul.



Crested Finchbill

Red Vented Bulbul

Pycnonotuscafer (Linnaeus, 1766)

Local name: Khoiningthik-ngang

Order: Passeriformes Family: Pycnonotidae

Description: Length c. 20 cm. Earth-brown bird with slightly tufted black head, black throat and scale-like markings on back and breast. red vent and white rump. Sexes alike.

Habitat: Affects cultivation, gardens, scrub, secondary growth and forest edges.

Distribution: Bishnupur, Chandel, Churachandpur, Imphal East, Imphal West, Jiribam, Senapati, Tamenglong, Thoubal and Ukhrul.



Red Vented Bulbul

Red Whiskered Bulbul

Pycnonotusjocosus (Linnaeus, 1758)

Local name: Khoingsai-ngang

Order: Passeriformes Family: Pycnonotidae

Description: Length c. 20 cm. Brown above, white below with broken breast-band. Black pointed crest and crimson 'whiskers'. Sexes alike.

Habitat: Affects scrub jungle, forest edges and semi-cultivation.

Distribution: Chandel, Churachandpur, Imphal East, Imphal West, Senapati, Tamenglong, Thoubal and Ukhrul.



Red Whiskered Bulbul

Photograph by Shri Khoyumthem Brajeshkumar (khoyumthem1k@gmail.com), Soibam Leikai, Imphal East, a freelance photographer and film maker.

Species identified by Kuman Jugeshor jugeshor@yahoo.co.in

IN FOCUS:

Observance of World Environment Day 2015

- Envis Team, Manipur

World Environment day 2015 was observed on the 5th June under United Nation's theme "Seven Billion people. One Planet. Consume with care." at Maharaja Chandrakirti Auditorium organized by Directorate of Environment, Government of Manipur. The event was observed to make aware the common public about environmental issues. Environment Awareness Campaign is started to address environmental issues like wastage and losses of food, deforestation, increasing global warming and so on. Every year, the event is organized according to a given particular theme and slogan of the year to bring effectiveness in the campaign all over the world.

Many Govt. Department representatives, Ngo's, students participated in the function.

Dr. Y Nabachandra Singh, Joint Director of the Directorate gave the welcome address and keynote of the function.

Speaking as Chief Guest of the function, Shri P.C. Lawmkunga, IAS, Chief Secretary of Manipur stated that "It is our duty to preserve environment, observe cleanliness, save our ecosystem. Nobody from outside will protect for us, it is the time to put our fate together to protect from environment degradation."

In the Guest of Honour's speech, Dr. R.K. Nimai Singh, Consultant, Government of Manipur stated that "Climate change is a part of

nature". He also observed that "Climate is changing, the earth is warming up, and there is now overwhelming scientific consensus that it is happening, and is human-induced. With global warming on the increase, species and their habitats on the decrease, chances for ecosystems to adapt naturally are diminishing.

Siroi Lily, a rare plant, seems unfit to grow on the soil of Kashong peak, an unspoiled forest habitat



for many rare plants, animals and birds is no longer befriending with Siroi Lily anymore due to climate change and human's manipulative attitude.

Message to Public:

- Govt. should change their policy for better future of Manipur.
- Let's aware and consume natural resources with care.
- Let's stop throwing garbage to drainage.
- Let's keep drainage system neat and clean.

In the Guest of Honour's speech, Dr. Kh. Shamungou, Chairman (SEIAA), Government of Manipur stated that "The Earth's natural resources are vital to the survival and development of the human

population. However, these resources are limited by the Earth's capability to renew them. Fossil fuels and metal ores are non-renewable. Although many effects of overexploitation are felt locally."

Speaking as guest of honour of the function, Dr. H. Nandiram Sharma, Chairman (SEAC), Government of Manipur stated that "California and Manipur share somewhat similar topography and talk about the differences in conservative methods and water management system in California."

Shri. G. Tomba Sharma, Member (SEAC), Manipur talked about effects and factor of Climate change. Lastly, His message to the audience was "Let save our sweet home, Earth".

During the function, Directorate of environment, Government of Manipur had selected 24 (Twenty Four) NGOs and Firms for awarding "Environment Award 2015" based on their work relating to environment related issues. Awards were handed over by the respected Chief Guest, Guests of Honour & President respectively.

Lastly, Dr. T. Brajakumar Singh, Research Officer of the Directorate addressed Vote of Thanks and gave appreciation note to the respected Chief Guest, Guests of Honour & President for their valuable speech on the theme "Seven Billion Dream. One Planet. Consume with Care."

ENVIRONMENT EVENTS

Earth Day 2015*Theme: It's our turn to lead*

2015 - Earth Day's 45th anniversary - could be the most exciting year in environmental history.

The year in which economic growth and sustainability join hands. The year in which world leaders finally pass a binding climate change treaty. The year in which citizens and organizations divest from fossil fuels and put their money into renewable energy solutions. These are tough issues but we know what's at stake is the future of our planet and the survival of life on earth.

On Earth Day we need you to take a stand so that together, we can show the world a new direction. It's our turn to lead. So our world leaders can follow by example. For many, climate change seems like a remote problem, but the reality is that it's already affecting people, animals and places around the world. A change needs to be made. On April 22 we are harnessing the power of Earth Day to show our communities and our leadership that we want action on climate. It's our turn to lead.

In 2015, let's redefine what progress looks like. It's Our Turn to Lead.

Sustainable Development

One billion people still live on less than \$1.25 per day. One of the biggest controversies over a treaty has been the issue that

developing countries don't want to give up economic growth no matter the environmental cost, since the US and other developed countries got to pollute their way to the top.

Grassroots

Making a Difference

Over 400,000 people came together this past September in NYC for the biggest climate march of all time. Their call for action from the city streets reverberated around the world. They rallied for their leaders to recognize the catastrophic implications of climate change.

Time for a Treaty

Over the past 20 years, there have been a series of failed attempts to create an effective international treaty on climate change mitigation. In 1997, the first major international agreement was passed, The Kyoto Protocol. The US—one of the top polluters—didn't ratify. Since then, many Summits and many efforts to come to a g r e e m e n t — R i o , Copenhagen—have ended in a flop.

International Day for Biological Diversity 2015

This year's theme reflects the importance of efforts made at all levels to establish a set of Sustainable Development Goals (SDGs) as part of the United Nations Post-2015 Development Agenda for the period of 2015-2030 and the relevance of biodiversity for the achievement of sustainable development.

The selection of the theme also underlines the adoption of the Gangwon Declaration, by ministers and participants to the High-level Segment of the twelfth meeting of the Conference of the Parties to the Convention on Biological Diversity (CBD). The Gangwon Declaration welcomed the importance given to biodiversity in the outcome document of the Open Working Group on Sustainable Development Goals and called for the further integration and mainstreaming of biodiversity in the Post-2015 Development Agenda.

We invite Parties and organizations that have already initiated national plans for activities to celebrate the International Day for Biological Diversity to keep the Secretariat informed of such plans and other noteworthy activities organized by NGOs or other organizations so that they may be included in these pages.

RESEARCH ABSTRACT

Fluoridation - A need in ground water of Imphal District

Sanjoy Meitei and *Asha Gupta

Department of Environment Science, DM College of Science, Imphal, Manipur, India

*Department of Life Sciences, Manipur University, Manipur, INDIA

ABSTRACT: *Fluorosis caused by intake of fluoride is prevalent in India. High concentration of fluoride in ground water supply has been the cause of fluorosis. According to W.H.O. and B.I.S., the excess of fluoride concentration above 1.5 ppm is lethal to human health and causes Fluorosis. fluoride (0.4-1ppm) in water promotes formation of dental enamel and protects teeth against carries. Too much of fluoride leads to destruction of enamel and causes fluorosis leading to dental disorder, decalcification, mineralization of tendons, digestive and nervous disorders.*

KEYWORDS: *Fluorosis W.H.O., B.I.S. MCM, Decalcification.*

Full paper will be available at www.manenvis.nic

ENVIRONMENT NEWS

(in abstract)

Women’s role in climate change adaptation discussed

Imphal, April 15, 2015: One day capacity building workshop on “Role of Women in Climate Change Adaptation” was held today at VC,s Court Hall here today. The Workshop was organised by Manipur University Working Women’s Association (MUWWA) in collaboration with Climate Change Cell, Directorate of Environment, Govt. of Manipur.

Source: *Imphal Free Press*

Manipur to translocate critically endangered Sangai deer

Kolkata, June 16, 2015: The Sangai deer is found only on a floating biomass on Manipur’s Loktak lake. The critically endangered species of Manipur’s Loktak lake, will soon be provided a second home to save it from extinction.

Source: *The Hindu*

No end to pulluting Nambul river

Imphal, June 23, 2015: Nambul river, which flows through the heart of Imphal city, is getting polluted day by day as the Government has failed to pay seroius attention towards protection of the river regularly. The stretch from Kasturi bridge to Singjamei bridge has become like a murky drain as people residing on either sides of the river keep on dumping waste material in the river...

Source: *The Sangai Express*

Note: Full news are available at <http://www.manenvis.nic.in>

For further information, please contact
The Coordinator, ENVIS Centre, Manipur, e-mail: man@envis.nic.in ,<http://www.manenvis.nic.in>

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