WORLD PHEASANT ASSOCIATION INDIA

Mor

Newsletter of World Pheasant Association - India

Editorial:

Finally 2011 has gone (UN International Year of Forests) and 2012 has arrived (UN International Year of Sustainable Energy for All). In the Year of Forests, we lost substantial areas of forest cover in Andhra Pradesh and in parts of North-East India. Losing forest cover means losing species; flora and fauna both. Pheasants being a sensitive bird group suffered most due to forest loss.

WPA-India has reported findings from various studies on pheasants from different regions of India and flashed pheasant habitat loss and hunting. The lone sighting of Red-breasted Hill Partridge in Singalila National Park and Buxa Tiger Reserve during one and half year's field study describes the rarity and gloomy situation of the species. Disappointing information is that no sighting of Manipur Bush Quail in Manas National Park and Reserve Forest could be made although a lot of effort was put in.

Encouraging news is about the Peafowl and Grey Francolin that they are abundant in Sariska Tiger Reserve, Keoladeo National Park and Madhav National Park. This issue includes articles on the first information status and distribution of Galliformes of Khangchendzonga Biosphere Reserve (Sikkim), Red Junglefowl conservation status in India and Peafowl study in the Rashtrapati Bhawan, Delhi. Each study has its relevance and importance in Galliform conservation.

Dr. M. Shah Hussain, Hon. General Secretary

ANNUAL REVIEW 2010-11

An important achievement during the year was the obtaining of recognition in terms of Section 80G of the Income Tax Act in favour of WPA-India. We hope that this will encourage donations to WPA-India.

General Body & Governing Board. During the year, the WPA-India Governing Board met on 26 March 2011. In the meeting the Board accepted the request of Shri Shekhar Singh to step down as President for personal reasons and the Vice President Shri D.K. Chetsingh, was requested to look after the organisation until a new President took over. Dr. M. Shah Hussain was appointed as the Hon. General Secretary of WPA-India.

Membership & Newsletter: There has been a slight increase in the enrolment of new members. At the end of the year, the membership status was as follows: Life Members (56), Institutional Members (8) and Annual Members (52).

During the year, issues of the newsletter ***Mor*** were brought out in July 2010 and January 2011. The July 2010 issue includes articles on Partridges, Quails and Francolins in India: Conservation in a Centre of Biodiversity, Techniques for Monitoring Galliformes in India and Assessment of distribution and population status of Grey Junglefowl in the Protected Areas of the Southern Aravallis in Udaipur District, Rajasthan. The January 2011 issue carried the Annual Review of WPA-India for 2009-10 and articles on the Galliformes of West Bengal and the Manipur Bush Quail in western Assam.

Partnerships & Networking: Collaboration with other partner institutions such as the Wildlife Institute of India, WWF-India, Bombay Natural History Society, Centre for Environment Education, Central Zoo Authority, National Zoological Park, Samrakshan Charitable Trust and others was continued and further strengthened. During the year, a new partnership was established with the Salim Ali Centre for Ornithology and Natural History (SACON).

Save the National Bird Campaign: The campaign was continued during the year with further gains. As a result, cases of peafowl mortality are being reported and getting covered by the media. A project of WPA-India "Study the status of the Indian Peafowl in selected parks of Delhi" was sanctioned by the Department of Environment, Government of NCT of Delhi. WPA-India was also commissioned by the President's Secretariat to undertake a study on the National Bird in the President's Estate.

Field Projects: The progress in regard to the ongoing field projects is briefly given below:

Effect of pesticide use on the Blue Peafowl and Grey Francolin in Central India (Funded by the Ministry of Environment and Forests) – The Final Technical Report has been submitted to the Ministry of Environment and Forests, Govt. of India.

Mobilising Grassroots Action for the Conservation of Galliformes in the Gori River Basin, Uttarakhand (Funded by the Ministry of Environment and Forests) – The Final Technical Report has been submitted to the Ministry of Environment and Forests, Govt. of India.

Field Study of Indian Peafowl in selected parks of Delhi (Funded by Delhi Government) – The Final Technical Report has been submitted to the Department of Environment and Forests, Government of NCT of Delhi.

Study of the National Bird in the President's Estate (Funded by President's Secretariat) - The Final Technical Report has been submitted to the President's Secretariat.

Survey of Manipur Bush-Quail in western Assam (Funded by the Ministry of Environment and Forests) – The Final Technical Report has been submitted to the Ministry of Environment and Forests, Govt. of India.

Study on the status, distribution, key threats & related conservation aspects of Red-breasted Hill-Partridge (*Arborophila mandellii Hume*) in West Bengal – The Final Technical Report has been submitted to Critical Ecosystem Partnership Fund (CEPF).

Himachal Pradesh Pheasant Conservation Project is still pending with the State Government. Efforts are continuing to get the project approved.

The new project proposals being finalized are:

- Study on the status, distribution and related conservation aspects of the Pheasants of Sikkim and Western Arunachal districts (East Kameng, West Kameng and Tawang).

There is an urgent need to get further projects sanctioned to sustain the functioning of the organization.

Status and Distribution of Galliformes of Khangchendzonga Biosphere Reserve, Sikkim

The State of Sikkim with its unique position in the mighty Himalayas is blessed with abounding biodiversity. Khangchendzonga Biosphere Reserve (KBR) lying in the State of Sikkim, India is the highest protected area of the country and third highest in the world. It encompasses an area of 2,619.92 km² that includes 1,784 km² area of the Khangchendzonga National Park (NP), and a buffer zone of about 836 km². The elevation varies from 1,220 to 8,586 m within an aerial distance of just 42 km with about 90% area above 3000 m and 70% above 4000 m signifying this park as a unique natural heritage hotspot in the world.

In spite of having rich bird diversity there has been no systematic survey or study on the assessment of Galliformes in Sikkim which not only have a high cultural value as a State bird (Blood Pheasant Ithaganis creuntus) but also high ecological significance acting as important prey base for carnivores. So the present study primarily aimed to fill the above mentioned research gap and to prepare an inventory for galliformes of Khangchendzonga BR. In this article, we report findings and update of the first such study on galliformes conducted in Khangchendzonga BR.

The area of Khangchendzonga BR has been divided into seven watersheds (Fig 1) namely Lhonak (15%), Zemu (23%), Lachen (5%), Rangyong (36%), Rangit (6%), Prek (8%) and Churong (7%). In this study, Prek Chu (27°21' - 27° 37'N, 88° 12' -- 88° 17'E) (Chu = river) catchment area (182 km²) was selected as the intensive study area as it represents all the habitat characteristics of Khangchendzonga BR, although extensive surveys were also conducted in Lhonak, Zemu, Lachen and Churong watersheds. The Prek Chu watershed has a typical monsoon climate and can be divided into six habitat classes, viz., mixed sub-tropical (1%), mixed temperate (16%), sub-alpine (36%), alpine pastures (5%), rock and snow cover (41%) and water bodies (1%).

The study was conducted for a period of four years from 2008 to 2011. Due to the topography and remoteness of the area all field activities were carried out in the form of field expeditions i.e., camping in different areas of the Prek Chu water shed. One field expedition was usually for 8 to 12 days. Exploration surveys were carried out on five other watersheds (Churong, Lachen, Zema, Lhonak and Prek) of the Khangchendzonga BR. We applied some of the conventional sampling methods (trail sampling, camera trapping and local interviews) for the assessment of galliformes (distribution and relative abundance) depending on the feasibility of the terrain.

Through visual encounters and camera trap photos seven galliformes species were confirmed in the study area. This includes: Blood pheasant, Himalayan Monal (Lophophorus impejanus), Satyr tragopan (Tragopan satyra), Snow partridge (Lerwa lerwa), Hill Partridge (Arborophila torqueola) and Kalij pheasant (Lophura leucomelanos). Presence of Tibetan snowcock (Tetraogallus tibetanus) was confirmed through calls, droppings and other signs at Lhonak valley, the northern Trans–Himalayan part of the Biosphere Reserve. Blood Pheasant was the most frequently observed pheasant during transect and trail sampling and also in camera traps. It was encountered on 111 occasions (1075 individuals) with aggregations of up to 75 individuals. Himalayan Monal was encountered on 56 occasions (152 individuals). We had 24 encounters (59 individuals) of Satyr tragopan during the study

period. Kalij was encountered on 19 occasions (54 individuals) and Hill Partridge on 9 occasions (18 individuals). Snow Partridge was encountered on 34 occasions (212 individuals).

In order to overcome lack of adequate data from visual encounters photo-capture rate (Number of captures/100 days ± SE) was used. Photo-capture rate of Blood pheasant was highest (3.43±1.28) followed by Himalayan Monal (0.72±0.22), Snow partridge (0.52±0.49) and Satyr tragopan (0.51±0.27). Photo capture rate of Kalij pheasant (0.54±0.23) and Hill partridge (0.51±0.24) were more or less similar. The evidences of Snow partridge, Himalayan monal and Blood pheasant were encountered in Sub-alpine and alpine habitats. Satyr tragopan was observed in sub-alpine and upper temperate forest. Evidences of Hill partridge and Khalij pheasant was encountered in temperate habitat only.

During the study period, occasional hunting of galliformes and presence of snares in all types of habitats of the study area was recorded. Apart from this presence of shepherd dogs and other feral dogs inside the National Park and their frequent movements along with the tourists is a matter of concern for galliformes survival. Therefore, we propose regular monitoring for removal of snares in the pheasant habitats and also strict vigil during the peak tourist season.

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Blood Pheasant (Ithaginis cruentus) - Sikkim State Bird

Study of the National Bird in the President's Estate, New Delhi

The National Bird of India is very much associated with the official residence of the First Citizen of India as the President's House or Rashtrapati Bhawan having diverse land forms is home to a good number of Peafowl.

An initiative called the ROSHNI Programme to make the President's Estate a green, energy efficient and zero waste model townshipwas launched by HE Smt. Pratibha Devisingh Patil. WPA-India was entrusted to carry out a study on the Peafowl to assess its population, habitat conditions, and possible threats and to give suitable recommendations to conserve a sizeable peafowl population in the President's Estate.

This study was conducted from December 2008 to November 2009. Dalli Khana, Nature Trail and some Veethis (roads) were selected for the study. The results yielded 50 individuals of Peafowl with variable numbers at the study sites. The maximum Peafowl were sighted in the Biodiversity Park and Nature Trail area having diverse landscape features with native vegetation.

The overall peafowl density for the whole of President's Estate works out 0.78/ha (95% C.I.= 0.46-1.32) - i.e. 104 individuals. Juveniles were sighted only in the Nature Trail and Dalli Khana areas. The social groups consisted of adults, sub-adults and juveniles. The mean group size was 2.4 ± 1.4. Mean population of males was 1.11 ± 0.31 (n =31), females was 1.28 ± 0.52 (n =45), juveniles was 2 ± 1 (n =26) and sub-adults was 1.23 ± 0.43 (n = 16).

Peafowl have shown significant positive correlation with ground vegetation ($\hat{o} = 0.235$, $p = 0.03$) and negative correlation with tree canopy cover ($\hat{o} = -0.245$, $p = 0.03$). The bird prefers open habitat having dense ground vegetation areas. The Dalli Khana and Nature Trail areas provide dense ground vegetation and attract more Peafowl. Peafowl groups were found fragmented but confined more towards gardens and the Ridge area. They were encountered more in the medicinal garden and Biodiversity Park, and were also seen feeding on the food items provided to deer, rabbits, ducks and turkeys.

Veethis are the main connecting roads used for all purposes. Only one Peafowl was sighted on Zakir Hussain Veethi within selected the study area. Occasionally peafowl were sighted in the spiritual garden and the Mughal Gardens. Due to ornamental gardening, peafowl are not welcomed here by the gardeners.

The President's Estate provides a safe habitat to Peafowl. Solitary male peafowl were sighted more but male-female grouping occurred during the breeding season, and sometimes in mixed flocks while feeding. Juveniles were always seen with females. Veethis were quite disturbed due to vehicle movement and other disturbances, so juveniles were not sighted there. Peafowl use higher trees to perch and roost. They used *Tectona grandis* and *Prosopis juliflora* trees to roost in Dalli Khana and Nature Trail areas. Certain habitat variables such as canopy cover, ground cover layer may be useful for evaluating habitats used by peafowl. This study is the first attempt to describe the habitat used by Peafowl in the President's Estate in a quantitative manner.

The Nature Trail and Dalli Khana areas provide the most preferred ecological habitat to peafowl for feeding, roosting and breeding, and also diverse food base such as insects, grains, berries, seeds and sometimes smaller reptiles.

Measures to protect and conserve peafowl in the Rashtrapati Bhawan Estate:

1) The ground cover should be restored in Dalli Khana and Ridge area. 2) The Dalli Khana and Ridge area should form a continuous block to allow free movement of Peafowl. This area can become a good breeding and nesting site for the Peafowl. 3) Watercourses in the Ridge area of the Nature Trail can be revived for Peafowl and for biodiversity also. 5) Peafowl is an omnivorous bird and feeds on a variety of food items, and hence native trees and shrubs should be enriched in the Nature Trail and Dalli Khana areas. 6) Vehicle movement inside the Nature Trail and Ridge area should be minimized or stopped. 7) Collection of fuel wood from the Ridge area should be stopped as it affects the availability of feeding material for Peafowl. 8) Create awareness among the residents and staff, especially gardeners. 9) Gardeners should be tolerant towards the National Bird roaming and feeding in the Estate. 10) Reflective ribbons can be used around the vegetable garden. Their brightness and humming noise will keep Peafowl away. 11) The Estate can be converted into a wildlife sanctuary, which will benefit all biodiversity apart from peafowl. Many conservation measures advocated in this report regarding the conservation of Peafowl will also be of direct benefit to many of the other bird and mammal species.

by Dr. M. Shah Hussain, Hon. General Secretary, WPA-India

Conservation of Red Junglefowl in India

A large number of species have been domesticated into different breeds or varieties, primarily for food and/or aesthetics. Darwin had suggested that there are changes in the morphological and physiological appearance in relative to the wild counterparts. Close proximity of feral/domestic breed and the effective gene flow between the wild counterparts has raised concerns in regards to the purity, possibly loss of the progenitor and the effect of hybridised individuals in the system. While, anthropogenic hybridisation a result of forced intervention is of concern, it is imperative that we conserve or identify the nonhybridised individuals. However this would largely be impossible due to hybrid swamps and to tease out whether the 5% or less proportion of hybridisation is an effect of admixture or natural. The last two concerns have been highlighted in the Red Junglefowl and it is imperative that there be an investigation within India as the species has not been evaluated. With this in mind a project "Conservation of Red Junglefowl in India" was initiated by the Wildlife Institute of India, Dehradun to map the distribution of the species, identify and map pure RJF populations by molecular genetic studies, study the interaction between domestics and wild.

The present distribution indicate that the species is quite widespread covering 21 states and in a wide variety of habitats ranging from mangrove forest to mixed-Pine dominated forest, covering an altitude range from sea-level to 2500m. It was recorded in 270 districts and 169 PA (34 National Parks[NP] and 135 Wildlife Sanctuaries [WLS]) with an estimated potential area ca. 354,978 km^2. The PA network accounts for nearly 13% of the area (47,648.98 km^2), while approximately, 90% of the distributional area lies outside the purview of the present PA system. Though the species is widespread, the burgeoging human population and urbanisation may have caused widespread loss of forest patches thereby fragmenting the once continuous distribution into three large landscapes viz Northeast, North and Central landscape. The limits to the species range is mostly due to non-availability of habitats and altitude for the northeast and north landscape where the western most record is in Pakistan-occupied Kashmir (PoK) while in the central landscape the species is not reported beyond the west bank of River Pench in Madhya Pradesh. Whereas in the state of Maharashtra, Gadchiroli District there are records of the species from Nawegaon NP and Nagzira WLS. Though River Godavari is known as the geographic limit for the Red Junglefowl there are records for the species on the west bank at Pollavaram WS, in the West Godavari District of Andhra Pradesh.

From the interaction studies though inference is limited to few observations during the early morning hours it was noted there there seems to be large spatial segregation of wild and domestic individuals during the breeding season. In the non-breeding season the females (wild and domestic) were tolerated to move between the groups while there were some agnostic interactions between the wild male and domestic males when distances were less than five meter. It was noted that the domestic males always chased the wild junglefowls away even when the domestic males were less in number than the wild male junglefowl.

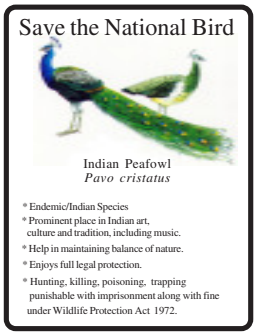
This is the first instance where that the distribution of a common avian species has been genetically mapped with the maximum heterogeneity being observed within the northeast population while the central India population showed the least. There seems to be some structuring in the population which showed three main clusters resembling the main three landscapes. One of the major aims was to look at introgression or hybridisation. In order to do so we analysed captive stocks that were housed in various captive centres of India (14). For 247 wild and 79 domestic samples which were screened with 23 polymorphic markers, 52 birds showed moderate to high levels of admixture with the domestic fowls.

by: Merwyn Fernandes, Mukesh, S. Sathyakumar, WII, Rahul Kaul (WTI) and Rajiv S. Kalsi (MLNC, Yamuna Nagar)

Resource Material - *available on request*

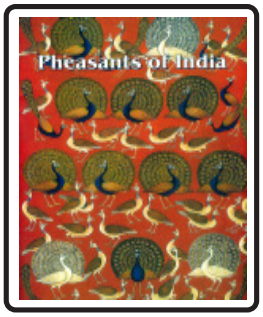
Posters

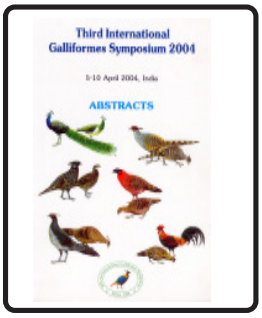
- Pheasants of India
- Pheasants of Arunachal Pradesh
- Pheasants of Himachal Pradesh
- Pheasants of Uttarakhand
- Pheasants of Assam
- Pheasants of J&K
- Pheasants of Sikkim
- Pheasants of Nagaland
- Pheasants of West Bengal
- National and State Birds
- Save the National Bird
- Himalayan Monal

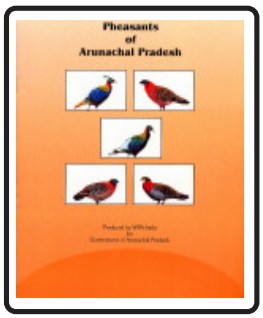


Booklets

- Pheasants of India
- Pheasants of Arunachal Pradesh
- Third International Galliformes
- Symposium Abstracts
- Pheasants of Himachal Pradesh







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