

Study of avian diversity of Summer Hills, Shimla, Himachal Pradesh

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Abstract: Himachal Pradesh, a hilly state lying between 30° 22' to 33° 12' North latitude and 75° 47' to 79° 04' East longitude elevation ranging from 350-6500 metre from sea level and total area of state 55673 sq. km. In comparison to the summer Hill elevation is 6500 feet and total area is 20 hectares. The present study was aimed at knowing the current status of birds in different pockets of Summer Hill, Shimla.

Key words: Avian diversity; Summer Hills; Shimla.

1. Introduction

Birds are one of the most fascinating creatures of the nature, which are cosmopolitan in their distribution. They not only act as destroyers of insect pests but play an important role as bio-control agents and efficient pollinators of crops.

Over the centuries birds have inspired artist and bird images generally used to adorn everyday objects. Birds are good indicators of bio-diversity, and are a measure of sustainability of human civilization of natural environment.

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A bird has been described as a “Feathered Biped”. They are warm blooded animals, (whose temperature remains more or less constant and independent of surrounding). To assist in maintaining an even temperature, the body of the bird is covered with non-conducting feathers. They lack sweat glands and extra heat produced is eliminated through the lungs and air sacs. Air sacs are cavities, a feature peculiar to birds, found in various parts of body and indirectly connected with lungs. One of the functions of air sac is to promote internal perspiration. Water vapours diffuse from the blood into these cavities and pass out by way of the lungs. Moreover, the forelimbs of birds have been evolved to serve as perfect agents of propulsion wings. The senses of sight and hearing are most highly developed in birds, whereas of taste is comparatively poor, but smell they sense is practically absent.

Birds form an important component of rich Indian bio-diversity due to its unique biogeographical location and diversified climatic conditions. At present biodiversity is better understood for birds in many respect than any other major group of organisms because they probably inspire more extreme interest in humans, relatively easily observed and not too cryptic to identify. India ranks amongst one of the bio-diverse countries in the world from bird diversity point of view. Currently 13 species of breeding, staging and wintering birds spread over 88 families and 22 orders, occupy a wide array of natural, semi-natural urban habitats are known from India. It corresponds to as many as 13% of the world's birds. These include 141

endemic species, a total comprising of over 10% of the regions avi-fauna (Grimmett et. al. 1999).

Relation of human with animal and bird biodiversity is as old as the evolution of man itself. Man has been dependent upon the biodiversity for fulfillment of his entire livelihood needs. But degradation of the Indian Himalayas of which Himachal Pradesh is a part is having profound influence on all eco-systems of the region resulting in loss of bio-diversity. It is therefore very important to conserve the ecology and bio-diversity of the deteriorating fragile ecosystem. Many valuable animal resources including birds and several of these are being threatened due to large scale destruction of their habitats. The habitat loss is affecting nearly all bird species classified as critical, endangered or vulnerable. This is the biggest threat overall to forest birds.

At present, India has a total 74 restricted range species of which 39 are confined to the geographical boundaries of country (Stallars = field et. al, 1998). Besides, 79 Indian birds species are globally threatened with extinction. Of these 9 are critical, 10 species are endangered, 57 are vulnerable, 2 are conservation dependent and 1 is data deficient. A large proportion of the bird species in India are rapidly declining and there is an urgent need of conserving these threatened species.

Like India, the faunal/floral diversity in H.P. University also so rich and diversified, primarily due to varied climate conditions ranging from tropical in the foot hills to trans Himalayan region. There is pronounced dominance or Palaearctic & endemic animals above timber line (3000 m). Largely oriental and some other open elements at lower and middle altitudes, thus rich diversity of Himachal Pradesh has sustained population and hill communities from time in memorial. But in recent years, the state has come under a strong threshold of development. Natural ecosystem have been over exploited and even destroyed by rapidly increasing human population.

Many investigators have conducted detailed biological studies on different aspects of bird life in different countries of world. Most of the work in Himachal Pradesh has always been focused on different aspects of Pheasants. Only a few studies have been conducted on

diversity, distribution, abundance and status of other birds life present in the state. Therefore, it is very important to study different biological aspects especially the diversity of birds in the Himalayan belt.

Present investigations were undertaken with special reference to Summer Hill, covering an area of 20 hectares, at an altitude 6500 ft. divided into no. of small pockets like, Sangti (Middle), Summer Hill, Railway Station with an objective to study the diversity of birds in Summer Hill, Shimla (H.P.) The study will be very useful in terms of bio-diversity conserving.

2. Materials and Methods

Avian study was mainly aimed at knowing the current status of birds in different pockets of the Summer Hill, Shimla. An attempt has been made to know the avian diversity.

Himachal Pradesh, a hilly state lying between 33° 22' to 33° 12' North latitude and 75° 47' to 79° 04' East longitude, elevation ranging from 350-6500 meter from sea level and total area of states 55673 sq. km. In comparison to the Summer Hill elevation is 6500 feet and total area 20 hectares.

Various natural eco-systems/habitats like forests and human habitations are selected for the study i.e. University Campus near Library, Agricultural Co-operative, City Inn, Middle Sangti, Pratham Sangti etc. Areas/sites supported by forest cover of *deodar*, *pine*, *shodoevdm* and oak etc.

Avifauna of Summer Hill was explored based upon extensive avian studies, which involved the detailed survey of avifauna in different study sites. The other most important aspect kept in consideration was the activity of birds. Since the peak activity in most of birds lasts for 1 or 2 hours after sunrise or before sunset

The birds were observed and photographed with the help of digital camera of 7.2 mega pixel. Field identification were carried out with the help of locals and field guides. Identifications were mainly based on morphological characters and no bird was caught or hunt during observations.

3. Results/Observation

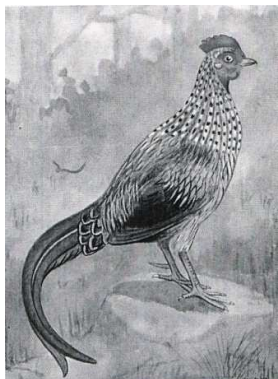
Extensive avifaunal studies conducted in different areas of Summer Hill, Shimla (H.P.) revealed that 11 species of birds belonging to 11 genera, spread over 09 families and 06 orders. Exploration further showed that family Phasianidae represented maximum number of bird species, followed by *Passeridae*, *Columbidae*, *Sturnida*, *Corvidae*, *Pycnonotidae*, *Cuculidae*, *Upupidae*, *Hirundinidae*.

Taxonomical details of avifauna

Present work embodies a detailed depiction of each bird species recorded:

1. Jungle fowl (*Gallus gallus* Linnaeus)

Order Galliformes; Family: Phasianidae, includes the so called game birds.



Male has orange red upper part with long neck hackles. Tail laterally compressed. Met with singly, in pairs, or in small groups in forest especially in the neighborhood of cultivation. It seldom ventures far from cover. The crow of cock is a loud. Red crown and hackles are present in male. A medium sized, red & metallic black with red wattles & pale lappets. Pairs or flocks, glassy orange red above with yellow hackles and elongate feathers on rump. Black tail with long sickle shaped feathers paler rufous crown & head. Rest of plumage dark Brown with Buff & Black streaks. Habitat, Deciduous forests and secondary scrub with cultivation.

2. Common Pea fowl (*Pavo cristatus* Linn.)

Order: Galliformes; Family: Phasianidae

Male with shining blue neck and breast, a tuft of spatula like feathers on head, a train of metallic green long upper tail coverts having ocelli. Pea fowl inhabits dense scrub jungle



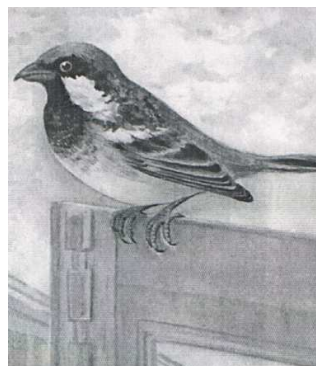
and forest well provided with nature of shyness. The dance of the peacock with his gorgeous train spread like a fan is well known. The cock's cry is an ugly shrieking.

Female smaller, greenish neck, whitish below.

Habitat: Deciduous forests, secondary forests with grass & scrub cultivation & around villages.

3. House Sparrow (*Passer domesticus* or *Fringilla domestica* Linn)

Order: Passeriformes; Family: Passeridae; Sub-family: Passerinae



The bird freely entering and nesting in houses and making a thorough nuisance of themselves. Bill short and stout. Tail dark brown with grayish brown rump.

4. Blue Rock Pigeon (*Columba livia* Gmelin)

Order: Columbiformes; Family : Columbidae (Pigeons & Doves)

Bluish grey, broad blackbars across the wings. This Species ranks with house crow and Sparrow as one of the most familiar birds in towns, nesting in building, gorges, dams and



bridges. Their flight is swift, short and strong. Their call notes are well known and familiar: a deep *gootr-goo*. They feed in pairs or in large flocks. They are monogamous and after the pair formation. The partners separate out of the flock and remain attached to each other feeding & roosting together.

5. Common Myna (*Acridotheres tristis* Linn.)

Order: Columbiformes; Family: Sturnidae

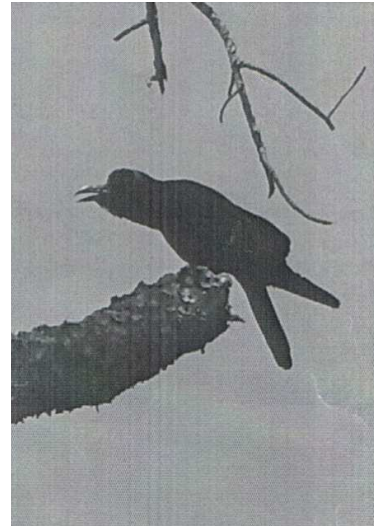


A familiar, medium sized, brownish bird with black head neck and breast, bright yellow legs and a bright yellow patch below legs. One of the commonest birds about human inhabitation. It is sociable. Commonly seen feeding in pairs or small flocks in fields often following cattle. The birds nest in holes in the walls and ceilings of dwellings.

6. House Crow (*Corvus splendens* Vieillot)

Order: Columbiformes; Family: Corvidae

One of our most familiar birds with grayish neck and breast found in every type of country



close to human habitations except dense forest. It sits on a exposed perch like a telegraph wire or pole from where it makes and rallies to capture moths and winged insects in the air. The species is high beneficial to agriculture because of its insect pests destruction.

7. Bulbul (*Pycnonotus jocosus* Linn.)

Order Passeriformes; Family: Pycnonotidae (Bulbuls)



Bill equal to, usually shorter than tarsus. The white cheeks dark olive green upper parts and yellow patch under the tail are some of the peculiar features. A well groomed bird of gardens with erect and forwardly curving crest and crimson patch under the tail. It is found in the neighborhood of habitations especially in the hill station. Also seen amongst the hedgerows and bushes away from habitations. A pleasant and cheerful bird flutters about in search of crumbs and also throws flight for berries, insects such as ants, beetles and creeping things amongst leaves.

8. Koel (*Eudynamys scolopacea* Linn.)

Order: Cuculiformes; Family: Cuculidae
(Cuckoos & Coucals)



It is arboreal in habit. It frequents gardens and open country where there are large leafy trees. The birds habit of laying its eggs in the nest of crows and foisting on then the responsibility for raising its young is well known from ancient times. Found singly or in pairs. Remains silent during the non breeding season. Females, mottled and barred.

9. Hoope (*Upupa epops* Linn.)

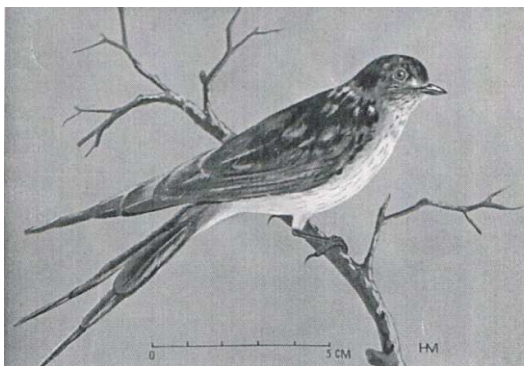
Order: Coraciiformes; Family: Upupidae



Bright rufous black and white birds, keep in pairs and small group, feeding on ground, running about with a quail like, probing the soil with their slender bills for worms etc. On alarm the crest (fan-like) is jerked. The call is soft and musical. Bird with black and white zebra markings on back. Wings black and white and tail fan shaped when erected. It produces a loud hooting call *-hud-hud-hud*. Seen grubbling about on lawns/ flower beds, nesting in outhouses and cavities in walls.

10. Common swallow (*Hirundo rustical* Linn.)

Order: Piciformes; Family: Hirundinidae



The birds are Sociable, perching in rows. They have several pleasant twittering notes. Glossy blue with a deeply forked tail. Blue black breast band. They add charm to a place. They are seen to flit in and out of the typical canopy of tree in summer hills. Freely fly across the dwelling houses in the study sites.

11. *Pyrrocorax pyrrhocorax* Chough

Family: Corvidae

Vermilion Bill is long and curved which is main characteristic differentiating from *corvus splendens* though feathers on the body in both cases are black. Red billed coughs become solitary, split from the larger flocks, therefore less gregarious than the yellow billed species. Sharp eye for seeds or succulent insects. These are ever ready to prick up scraps from the camp site, but are shy in their approach.

4. Discussion

The present study undertaken to know the diversity of avian fauna of Summer Hill Shimla (H.P.) Various sites were selected, timing of observation was also fixed i.e. early in the morning and late in the evening. As total 11 species of birds belonging to 11 genera, spread over 09 families were observed during the study. Members of families Phasianidae & Corvidae were observed two each while other families like passeridae, Columbidae, Sturnidae Pycnonotidae, Cuculidae, Upupidae and Hirundinidae, one each. More stress and intensive study with regard to exploration of avian fauna in this very area is recommended. Moreover there was no report by the investigator with regard to the presence of the endangered animals namely cheer pheasant, Monal and Western Tragopan etc. Hence area

needs to be exploited for the same. It is unending aspect because some birds are migratory and resident ultimately reflected the frequency of distribution in particular area.

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