

# A survey of Ibisbill (*Ibidorhyncha struthersii*) in the Rapti river

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Ibisbill (*Ibidorhyncha struthersii*) is the resident river bird of Himalaya which migrate in winter from higher to lower altitude. The Rapti river is the area where the species reside during winter spending almost three months from late November to late February. Its status in Nepal is threatened. The present survey carried out along the Rapti river indicated major threats to this bird species. This is due to habitat loss and manipulation, small range and population of the species, disturbances created by human, poaching, poisoning and pollution of river water, etc.

**Keywords:** *Ibidorhyncha struthersii*, migratory bird, threatened species, habitat loss, poaching

Ibisbill (*Ibidorhyncha struthersii*) is a magnificent river bird belonging to family Recurvirostridae. This resident bird species of Himalaya primarily inhabits on the shingle banks or islets in comparatively placid stretches of fast flowing glacier streams (Ali *et al.*, 1969).

The global distribution of Ibisbill is from Gilgit, Ladakh and Kashmir through Garwal, Kumaon, Nepal, Sikkim and Bhutan to extreme eastern Luhit Frontier Division (Ali *et al.*, 1969). Being a migratory species which moves in winter from the higher elevation to lower elevation, Ibisbill can be found from 200 meters to 4250 meters.

In Nepal, Ibisbill is mainly found along the Kyangjin River, upper Langtang (Inskipp and Inskipp 1991) Makalu - Barun National Parks, Khaptad National Parks during summer, whereas in winter (from late November to March) they migrate down to be seen along the Rapti river at Hetauda and the lower Arun River.

Ibisbill is easily identified in the field by its decurved red bill, diagnostic call and its body shapes and size but has high camouflage ability. Its size is about partridge with grayish brown body colour with decurved bill. Its forehead and face is black in color and wide white band at the base of gray neck. While in flight, the neck and long curved bill are stretched out in front and the posterior and black breast band is very prominent (Ali *et al.*, 1969).

This bird is enlisted in Candidate 2 species by Bird Life International (BLI) and considered as regionally threatened species. Nepal Red Data Book (DNPWC, 1995) puts this bird as susceptible species and recommended for legal protection because of its

small and fragmented population in Nepal

However the population status of the Ibisbill is studied in Nepal, and Inskipp and Inskipp (1991) recorded 18 pairs of breeding species in Lantang area in 1987 and 12 in Rapti river no information regarding overall population size is available yet. So, there is lack of information on its population size, which is considered as the basic data for effective management of any species for long-term survival. Similarly, the winter habitat of the Ibisbill is in the Rapti River. Being outside the protected area, it further poses a threat to the existence of this species in this area.

The present paper attempts to describe the population status and major threats to the bird, along the Rapti River.

## Methods

### Reconnaissance Survey

The present study was conducted along the Rapti, perennial river that flows down the Hetauda municipality to get mixed with the Reu river at Chitwan district and ultimately into the Narayani.

Reconnaissance was done to locate and find out the exact distribution of Ibisbill along the Rapti River. Following the reconnaissance survey, a direct observation was done in six blocks made along the river, each of 2.5 kilometer transect from Samari to Jay Singhe. Observation was done through a binocular (12x25, VIVITAR) at each block from 8 to 11 AM and 3.30 to 6.00 PM twice a week from December to March. Data such as number, location, threats and other important activities were recorded.

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## Results and discussions

### Population status

The survey revealed existence of three sub-populations along the Rapti River. Maximum of four Ibisbills were recorded in the first block whereas not even a single Ibisbill was recorded along the second block. This is perhaps due to high human activities in the block. The third block of the river contained ten Ibisbills which is highest of the all blocks. The fourth and fifth block did not contain Ibisbill. Four Ibisbills were spotted in the sixth block.

The total number of Ibisbills recorded in the Rapti River was eighteen. The block three contained the highest populations for it is less disturbed in compare to other blocks.

During the study, the group size observed was the smallest of four, and the largest of ten but usually they were seen in groups of four. This figure might indicate towards the equal sex-ratio but needs confirmation through detailed study. The sexual dimorphism is not distinctive in this species.

The Ibisbills were observed often accompanied by Spur-winged Lapwing. This might be due to alarming call made by Lapwing to get attention from the strangers.

### Major threats

The major threats for long term survival of the Ibisbill along the Rapti River are identified as :

**Habitat loss and manipulation:** Habitat loss and manipulation by various human activities such as haphazard extraction of stone and boulders along the river were identified as one of the primary threats to the species. The study suggested that Ibisbill primarily prefers the small island or edge of the river where small stone of grayish colour are found for their different activities such as feeding, preening, resting and camouflage. The extraction of stone from the Rapti River might affect Ibisbill which is a specific habitat selector.

### Small range and population of the species

The present distribution record shows they are mainly confined in some small range in Nepal with small number. At this range and population size, stochastic, genetic, demographic, and ecological events can have a strong effect on the population of this species. In this situation, there is high risk of extinction of the species simply due to fluctuation of

the climate, environment and habitat loss.

### Poaching

The study revealed that there is moderate pressure of poaching of water birds for meat in the Rapti River. Poacher mainly used sling and poisoned bait to kill the water birds. Once we observed a poacher killing Ibisbill.

### Disturbances created by human activities

There is a heavy biotic pressure in the Rapti River. People go there for fishing and washing clothes, collection of pebbles and boulders from early morning to late evening which disturb the bird. The pressure is further increased during holidays. Such activities can have negative impact on Ibisbill including other migratory birds. It can increase the chance of leaving such disturbed area permanently by the birds as they strongly reacted to the disturbances.

### Poisoning and pollution of river

Poisoning of river water is another threats to all the water birds including Ibisbill. During field observation, we found poisoning of river water by the local people for fishing. They used insecticides such as Furadane and Thiodane for this purpose. Such act can have both short-term (death of the species) to long-term impact (mutagenic effect on the species) on the survival of the Ibisbill along the Rapti River. It can create permanent disturbances on the ecosystem balance as all the water bird depend upon the river for food, shelter and cover. Besides poisoning, the river is polluted from the waste of many industries established at Hetauda.

### Migration status

Ibisbill were recorded along the Rapti River first on the 25<sup>th</sup> of November, and stayed there till the end of the February. So, the study revealed that the bird spent almost about three months in this area.

### Conclusion and recommendations

In the present study altogether eighteen individuals of Ibisbill with three sub-populations along the Rapti River were observed. The long-term survival of this winter visitor can not be ensured if the present threats continue. There seems the additive effect of the threats to the survival of the species because their habitat is outside of protected area. So, conservation awareness among the local people could be the one possible aspect to conserve the bird. The disturbances due to extraction of the stone

should be stopped or at least the area where they are recorded during the visitation of the bird in winter should be strictly prohibited. The habitat characteristics of this block such as velocity of river, width of river, shape and size of the stones should be studied properly to find out the habitat preference and use of the species. Also, poisoning and polluting the river must be stopped as soon as possible. As the Ibisbill is suggested for legal protection by the Red Data Book of Nepal, it should be declared as a protected species in this country so that legal measures could be undertaken to ensure its survival. Further research on the various aspects of the species and regular monitoring should be carried out to broaden our knowledge on this particular species.

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