

Wildlife of Border Belt Game Reserve District Narowal, Punjab, Pakistan

M. Akbar ¹, R.A.J. Khan ¹, S. Mehboob ² and Z.U. Nisa ²

¹ Punjab Wildlife Research Institute, Gatwala, Faisalabad, Pakistan

² Zoology Department, Government College University, Faisalabad, Pakistan

Abstract

Indo-Pak border belt area of district Narowal was established a Game Reserve, with a view to conserve local wildlife species. The area is a complex of aquatic and terrestrial habitat which is surrounded by agricultural lands. During study 15 mammal species from 11 families and 6 orders were identified. Among birds 86 species representing 64 genera, 35 families belonging to 17 orders were identified. Passeriformes is the most dominant order represented by 31 species belonging to 13 families, followed by anseriformes represented by 8 species all belonging to a single family, Anatidae. The area is a very important staging place for a variety of migratory waterfowl. Different types of waterfowl visit this area during winter every year. Due to enhanced threats to wildlife it is concluded that there is urgent need to safeguard the over all biodiversity of the area.

Key Words: Species, Mammals, Birds, Population, Biodiversity.

Introduction

Five miles strip along Indo-Pak Border in the Punjab Province was constituted a Game Reserve under the Punjab Wildlife Act, 1974, vide Government Notification No. SOFT(EXT)XII-1/77, dated 19th September, 1995. Border belt area of district Narowal approximately 130 km in length is also included in the Game Reserve. The area is a complex of aquatic and terrestrial habitat because river Ravi also flows in this area. The area is riverine and surrounded by agricultural lands. The natural vegetation of the area is tropical thron forest type with species of trees, such as Kikar *Acacia nilotica*, Shisham *Delbergia sisso*, Ber *Zizyphus mauritiana* and Safeda *Eucalyptus camaldulensis*. The main species of shrubs are Kahi *Saccharum spontanium*, Kana *S. munja*, Frash *Tamarix aphylla*, Aak, *Calotropis procera*, Lai *Tamarix dioica* and Dila *Capparis decidus*. Ground flora consists mainly of Bhakhra *Tribulus oratus*, Medhana *Dactyloctenium aegyptium*, Hermal *Peganum hermela*, Bathu *Chenopodium album* and Mako *Solanum nigrum* which provide forage to wild animals.

Major crops cultivated in agricultural lands are Bajra *Pennisetum typhoides*, Chari *Sorghum vulgare*, Rice *Oryza sativa*, Wheat *Triticum indicum* and Mash *Phaseolus radiatus*. These crops provide food to the grainivorous wild birds found in the area.

The area has a very good potential for scientific research, conservation education and sport hunting. For the effective management of a species or population, Rubin et al. (1998) stressed for the need of accurate knowledge of its spatial distribution. With this aim, present study was thoroughly conducted first time which will provide a baseline for the future management of the area.

Materials and Methods

Border belt area of Shakarghar and Narowal tehsil of district Narowal was surveyed during January 2002 and January, October 2003. As the area was very wide spread and it was not possible to survey the whole area, therefore, study was conducted by random sampling of the area. During daytime survey was conducted by beating the area from one side to the other in a straight line and observing the birds and animals found in the area. Survey was also conducted by moving at a very low speed in a 4x4 vehicle and observing outside. Study was conducted with special reference to diversity of birds and animals. Binocular standard EZ (10x30 mm) Minolta and Swift Telemaster Model 841, Zoomscope were used to observe, spot and identify the birds species following Roberts (1991, 1992) and Ali & Ripley (1983, 1987). Mammals are rather shy creatures and difficult to observe in the field, therefore, in addition to direct observations indirect clues of their presence such as scatterings, faecal pallets and foot prints were also given due consideration during survey. Hog deer being key species of the area was given special consideration and its survey was also conducted during night with help of search light and head lights of the vehicle. Informations were also collected from the local people to have some idea of the mammalian fauna.

Results and Discussion

Mammals

During present study 15 mammal species from 11 families and 6 orders were recorded Table-1. Among these species of special interest are those which are judged to be locally important for their rarity or for utilitarian, scientific or economic value and warrant special management attention. These are as under:

***Macaca mulatta*:** No animal was physically observed in the field but the presence of a family of four animals in the wild was reported by the staff of rangers check post, Tugalpura. The area is not suitable habitat for monkey. Most probably these monkeys might have migrated from Jammu Kashmir.

***Herpestes edwardsi*:** It is very beneficial to man. It feeds on scorpions, venomous snakes and stinging hymenoptera. This adaptable and useful predator is

Corresponding author: M. Akbar
Department of Zoology
Government College University Faisalabad.

captured by nomadic “Jogi” tribes who make a living using the tethered mongoose to stage fights with cobra. Though apparently hesitating occasionally to tackle large snakes (Stockley, 1930) there are many authentic observations of their killing and devouring highly venomous snakes. Its method of attack has been well documented by Sterndale, 1884.

***Sus scrofa*:** It is a pest for cultivation and causes serious damage to crops.

***Axis porcinus*:** It is valuable due to sport hunting. It's skin and head is used as trophy by preserving through chemicals. Preserved skin is also used as prayer mat. A very good population is surviving in the area. During study 9 Hog deer in tehsil Shakerghar and 7 in tehsil Narowal were observed, on the basis of which total population was estimated as, 168 animals in tehsil Shakerghar and 112 in tehsil Narowal, whereas total 280 animals in the said game reserve area.

***Lepus nigricolis*:** This is an important game species which is hunted both by shooting and coursing dogs. This is the only “halal” mammal whose hunting is legally allowed under the provisions of Wildlife Act, 1974.

***Hystrix indica*:** It is wide spread in the area. It causes damage to plants by trunk barking, stem and branch cutting. They eat succulent plants of many species and are especially fond of garden trees.

Birds

The area is a complex of aquatic and terrestrial habitat because it has characteristics of both these types, therefore it is accommodating a large variety of birds. During the study 86 bird species from 65 genera, 35 families and 17 orders were recorded. Passeriformes is the most dominant order represented by 31 species

belonging to 13 families, followed by anseriformes represented by 8 species all belonging to a single family, Anatidae. Charadriiformes was also represented by 8 species belonging to 4 families. Coraciiformes, Accipitriformes, Galliformes, Ciconiiformes and Columbiformes, represented by 7, 6, 5, 4 and 4 species belonging to 4, 1, 1, 1, and 1 family respectively.

Order Gruiformes, Falconiformes and Cuculiformes represented by 3, 2 and 2 species respectively Table-2. The area is a very important staging and wintering place for a variety of migratory waterfowl. Different types of waterfowl visit this area during winter every year. The area around Heer check post in Shakerghar, Kakay-kay and Chindian in tehsil Narowal are very good wintering places of waterfowl where thousands waterfowl visit every year. The most abundant are *Fulica atra*, *Anas crecca*, *A. platyrhynchos*, *A. acuta*, *A. clypeata*, *A. Penelope*, *Anser indicus* and *Tadorna ferruginea*. Other species found in the area are *Ardea cinerea*, *Ardeola grayii*, *Egretta garzetta*, *Phalacrocorax niger*, *Tachybaptus ruficollis*, *Amaurornis phoenicurus* and *Porphyrio porphyrio*. Waterfowls are important as game species. It is very good source of food for sport hunters.

Among phasianidae, most important is *Pavo cristatus* which is endangered in the Punjab. It was observed at three different places in groups of 25, 10 and 7 birds. These birds were found feeding on *Oryza sativa* crop near Zero-line in the area of Dera Bhindran and Yousaf Butt tehsil Narowal. It was reported that these birds come from India daily for feeding purposes and go back to India to pass their nights.

Table-1 Mammals of Border belt area of Narowal

Order	Family	Scientific Name	Common Name
Insectivora	Erinaceidae	<i>Hemiechinus collaris</i>	Hedgehog
Primates	Cercopithecidae	<i>Macaca mulatto</i>	Rhesus monkeys
Carnivora	Canidae	<i>Canis aureus</i>	Jackal
	Felidae	<i>Felis chaus</i>	Jungle cat
	Herpestidae	<i>Herpestes javanicus</i> <i>H. edwardsi</i>	Small Indian mongoose Common Indian mongoose
Artiodactyla	Suidae	<i>Sus scrofa cristatus</i>	Wild boar
	Cervidae	<i>Axis porcinus</i>	Hog deer
Lagomorpha	Leporidae	<i>Lepus nigricolis</i>	Indian hare
Rodentia	Pteromyidae	<i>Funambulus pennantii</i>	Five striped palm squirrel
	Hystriidae	<i>Hystrix indica</i>	Porcupine
	Muridae	<i>Rattus rattus</i>	House rat
		<i>Mus musculus</i>	House mouse
		<i>M. booduga</i>	Little Indian field mouse
	<i>Nesokia indica</i>	Short-tailed mole rat	

Table-2 Birds of Border belt area of Narowal

Order	Family	Scientific Name	Common Name
Podicipediformes	Podicipedidae	<i>Tachybaptus ruficollis</i>	Little grebe
Pelecaniformes	Phalacrocoracidae	<i>Phalacrocorax niger</i>	Little cormorant
Ciconiiformes	Ardeidae	<i>Ardea cinerea</i> <i>Bubulcus ibis</i> <i>Egretta garzetta</i> <i>Ardeola grayii</i>	Grey heron Cattle egret Little egret Indian pond heron
Anseriformes	Anatidae	<i>Anser indicus</i> <i>Tadorna ferruginea</i> <i>Anas acuta</i> <i>A. crecca</i> <i>A. platyrhynchos</i> <i>A. clypeata</i> <i>A. Penelope</i> <i>A. poecilorhyncha</i>	Bar headed goose Ruddy shelduck Pintail Common teal Mallard Northern showeler Eurasian Wigeon Spot-billed duck
Accipitriformes	Accipitridae	<i>Milvus migrans</i> <i>Elanus caeruleus</i> <i>Pernis ptilorhynchus</i> <i>Circus aeruginosus</i> <i>Buteo lagopus</i> <i>B. rufinus</i>	Common pariah kite Black-winged kite Crested honey buzzard Marsh harrier Rough-legged buzzard Long-legged buzzard
Falconiformes	Falconidae	<i>Falco jugger</i> <i>F. peregrinus</i>	Laggar falcon Shaheen falcon
Galliformes	Phasianidae	<i>Pavo cristatus</i> <i>Francolinus francolinus</i> <i>F. pondicerianus</i> <i>Coturnix coturnix</i> <i>C. coromandelica</i>	Indian peafowl Black partridge Grey partridge Common quail Rain quail
Gruiformes	Rallidae	<i>Amaurornis phoenicurus</i> <i>Fulica atra</i> <i>Porphyrio porphyrio</i>	White-breasted water hen Coot Purple swamphen
Charadriiformes	Recurvirostridae Charadriidae Scolopacidae Sternidae	<i>Himantopus himantopus</i> <i>Vanellus vanellus</i> <i>V. indicus</i> <i>Charadrius dubius</i> <i>Tringa nebularia</i> <i>T. tetanus</i> <i>Actitis hypoleucos</i> <i>Sterna aurantia</i>	Black-winged stilt Northern lapwing Red-wattled lapwing Little ringed plover Green shank Red shank Common sandpiper Indian river tern
Columbiformes	Columbidae	<i>Columba livia</i> <i>Streptopelia decaocto</i> <i>S. senegalensis</i> <i>S. chinensis</i>	Blue rock pigeon Indian ring dove Little brown dove Spotted dove
Psittaciformes	Psittacidae	<i>Psittacula krameri</i>	Rose-ringed parakeet
Cuculiformes	Cuculidae	<i>Centropus sinensis</i> <i>Clamator jacobinus</i>	Crow pheasant Pied cuckoo
Strigiformes	Strigidae	<i>Asio otus</i>	Long-eared owl
Caprimulgiformes	Caprimulgidae	<i>Caprimulgus asiaticus</i>	Indian night jar

Apodiformes	Apodidae	<i>Hirundo smithi</i>	Wire tail swallow
Coraciiformes	Alcedinidae	<i>Alcedo atthis</i>	Common king fisher
		<i>Halcyon smyrnensis</i>	White-throated kingfisher
		<i>Ceryle rudis</i>	Pied kingfisher
	Meropidae	<i>Merops orientalis</i>	Little green bee-eater
Coraciidae	<i>Coracias benghalensis</i>	Indian roller	
	<i>C. garrulus</i>	Kashmir roller	
	Upupidae	<i>Upupa epops</i>	Hoopoe
Passeriformes	Alaudidae	<i>Galarida cristata</i>	Crested lark
		<i>Alauda gulgula</i>	Sky lark
	Hirundinidae	<i>Hirundo rustica</i>	Common swallow
		<i>Riparia riparia</i>	Sand martin
		<i>Delichon urbica</i>	House martin
		<i>Motacilla maderasplensis</i>	Large pied wagtail
	Motacillidae	<i>M. flava</i>	Yellow wagtail
		<i>M. alba</i>	White wagtail
		<i>M. cinerea</i>	Grey wagtail
		<i>Pycnonotus cafer</i>	Red-vented bulbul
	Pycnonotidae	<i>Saxicoloides fulicata</i>	Indian robin
	Timaliidae	<i>Turdoides striatus</i>	Jungle babbler
		<i>T. caudalus</i>	Common babbler
	Lanidae	<i>Lanius vittatus</i>	Bay back shrike
	Sylviidae	<i>Locustella naevia</i>	Grass hopper warbler
		<i>Prinia subflava</i>	Indian prinia
		<i>P. socialis</i>	Ashy prinia
	Turdidae	<i>Phylloscopus sindianus</i>	Brown chiff chaff
		<i>Phoenicurus phoenicurus</i>	Red start
		<i>Saxicola torquata</i>	Stone chat
		<i>S. caprata</i>	Pied bush chat
		<i>Monticola solitarius</i>	Blue rock thrush
	Dicruridae	<i>Dicrurus macrocercus</i>	Black drongo
	Corvidae	<i>Dendrocitta vagabunda</i>	Indian tree pie
	Sturnidae	<i>Sturnus contra</i>	Pied myna
		<i>Acridotheres tristis</i>	Common myna
		<i>A. ginginianus</i>	Bank myna
Passeridae	<i>Passer domesticus</i>	House sparrow	
Ploceidae	<i>Ploceus manyar</i>	Streaked weaver	
	<i>P. philippinus</i>	Baya weaver bird	
		<i>Lonchura punctulata</i>	Spotted munia

Important game species such as *Francolinus francolinus*, *F. pondicerianus*, *Coturnix coturnix* and *C. coromandelica* were also observed in the area. It was reported that their population is decreasing day by day due to illegal hunting and poaching in the area. Other game birds such as *Columba livia*, *Streptopelia decaocto*, *S. senegalensis* and *S. chinensis* are commonly found in the area.

A large variety of singing birds was also recorded in the area which has a very good attraction for ecotourists.

Threats :

The major threats to wildlife in the area are given below in order of magnitude.

1. It is a riverine area therefore floods in the river damage habitat by land erosion. Nests and eggs of the birds are seriously destroyed during flood.

2. Illegal hunting, poaching of wildlife and livestock grazing in the area, seriously effect the population of wildlife species.
3. Exchange of firing between Indo-Pak forces in the border belt area damage wildlife populations on large scale.
4. About two years ago when Indo-Pak war was suspected, mines were laid down in the area by Pakistan army. It was reported that a large number of domesticated and wild mammals were killed/injured with mine

Conclusions:

It is concluded that the populations of breeding wild birds and mammals are decreasing day by day due to enhanced threats which calls for the urgent management planning to safe-guard the over-all biodiversity of the area.

References

- Ali, S. and Ripley, S.D. A Pictorial Guide to the Birds of the Indian Subcontinent. Oxford University Press, Delhi. 1983.
- Ali, S. and Ripley, S.D. Compact Hand Book of Birds of India and Pakistan. Oxford University Press, Delhi. 1987, Pp 149-172.
- Roberts, T.J. The birds of Pakistan, Oxford Univ. Press, Karachi, Pakistan. 1991, 1: 488-90.
- Roberts, T.J. The birds of Pakistan, Oxford Univ. Press, Karachi, Pakistan. 1992, 2: 31-70.
- Rubin, E.S., Boyee, W.M. Jorgensen, M.C., Torres, S.G., Hayes, C.L., O'brien, C.S. and Jessup, D.A. Distribution and abundance of bighorn sheep in the peninsular Ranges. Calif. Wildl. Soc. Bull. 1998. 26:539-551.
- Sterndale, Robert A. Natural History of the Mammalia of India and Ceylon. Thacker and Spink, Calcutta. 1884. P.540.
- Stockley, C.H. "Notes on the Mammals of Baluchistan" JBNHS 1930. Vol.34, No.2, Pp 567-8.
- The Punjab Wildlife (Protection, Preservation, Conservation and Management) Act, 1974, pp:8