Research Article

Diversity and Distribution of Avian Fauna of Swat, Khyber Pakhtunkhwa, Pakistan

Amir Jan Pathan, Shahroz Khan, Naveed Akhtar, and Kausar Saeed

Department of Zoology, Abdul Wali Khan University Mardan, Buner Campus, Pakistan

Correspondence should be addressed to Amir Jan Pathan; nghazal02@gmail.com

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This survey was conducted from January 2013 to December 2013 to explore the avian fauna of Swat valley and to find out the major threats to the avian fauna of the area as it was neglected for years. Direct and indirect methods were used in the study by visiting the field and by interviewing the local peoples and hunters about the current and past status of the avian fauna of the area. During the current study direct and indirect methods were used. A total of 138 species were recorded belonging to 13 orders and 48 families. The order Passeriformes were recorded much in number that were 31 species. Most of the birds were migratory and few were resident. The fauna was very rich due to the flora of the area and also due to less hunting. Orders Anseriformes, Apodiformes, Charadriiformes, Columbiformes, Pelecaniformes, Phoenicopteriformes, and Psittaciformes were found migratory and orders Ciconiiformes, Coraciiformes, Galliformes, and Piciformes were found resident while some members of Gruiformes and Passeriformes were found migratory and some resident.

1. Introduction

Birds are one of the most popular life forms on the planet, and their diversity leads to a richness of life and beauty. Apart from this, birds have always fascinated mankind with their intrinsically beautiful plumage, melodious songs, and artistic behavior. There are around 9000 species of birds living in the world today, with a tremendous diversity of life style. Besides this, birds are valuable for many aspects; that is, they are a sensitive indicator of pollution and also play great role in pest control.

The bird species are friends of farmers who believe that bird consumes large numbers of harmful insects, as well as their eggs and larvae, which serves as a biological control agent of insect pests in Pakistan [1, 2].

Birds are of great economic importance to the human society. They play an important role in controlling population of different insects and pests. They play the role of scavengers and pollinating agents and also help in the dispersal of seeds of vegetation. They are helpful and help to provide rich food for mankind and are known to man since ages [3].

Wildlife management and conservation initiatives are only possible with the appropriate information on wildlife and its habitat [4]. Wildlife habitat basically comprises food, cover, and water. Each species requires a particular habitat or the space, food, shelter, and other needs of survival so much so that species are said to be the product of their habitat [5].

With regard to birds, the total number of birds species in the world today is 9040 and the total number of taxa of birds of Indo-Pakistan subcontinent is 2060 [6]. The variety of avian species in ecosystems reflects the well-being of its habitat. Birds are the indicators of environment and are being used for conservation and environmental impact assessment [7].

Of course, the Indian subcontinent, a part of the vast Oriental biogeographic regions, is very rich in biodiversity. Out of more than 9,000 birds of the world, the Indian subcontinent contains about 1,300 species, or over 13% of the world’s birds [8].

Pakistan harbors a wide range of ecosystems which in turn catches the attention of a diverse avifauna to exploit their resources [9]. More than 650 species of birds have
been reported in the country and their occurrence in three zoogeographical zones (Oriental, Palaearctic, and Ethiopian regions) is unique in the world [10, 11].

Although the bird is intensively hunted and captured in its native range in Pakistan, owing to which local populations could be declining, the overall status of the species is regarded as stable [12–14]. The species is a friend of farmers who believe this bird consumes large numbers of harmful insects, as well as their eggs and larvae, and serves therefore as a biological control agent of insect pests in Pakistan [1, 2].

The bird is normally found foraging in open cultivated tracks and grasslands intermixed with scrub forests and is rarely observed above an elevation of 1200 m in Pakistan [15]. The Grey Francolin (Francolinus pondicerianus) is widely associated with the drier regions of the Indus plains and has penetrated the Thar Desert in Sindh, as well as the Thal and Cholistan deserts in Punjab. The species also occurs in the lower hills of the Makran and Lasbela districts in Balochistan, the Cherat and Kohat districts of Khyber Pakhtunkhwa province, the salt range and agroforestry tracks of the Pothwar Plateau in Punjab, and the Margalla hills of Islamabad [16–18].

In Khyber Pakhtunkhwa the wild fauna is rich and its wildlife flourishing in forests is a precious heritage of the country but due to motorized and ground hunting these wildlife species were driven to a point of extinction. For this purpose it is necessary to provide the best protection to wildlife in Khyber Pakhtunkhwa; therefore several areas were declared as protected areas [19].

The present study was conducted with the following aims:

1. to explore the avian fauna of Swat valley,
2. to find out the major threats to the Avian fauna of the valley,
3. to differentiate between migratory and endemic birds.

2. Methods and Materials

2.1. Study Area. The historic Swat Valley lies between 34°40' to 35° N latitude and 72° to 74°6'E longitude and is part of the Federally Administered Tribal Areas (FATA) of the Khyber Pakhtunkhwa province of Pakistan. Total area is 5,337 km², total population is 1,257,602, and capital is Saidu Sharif.

The survey was conducted from January 2013 to December 2013. The data was collected by using the direct and indirect methods in order to study the present status of avian fauna of the district Swat. Direct data collection will be made by visiting the study area once or twice a day early in the morning at 8:00 am till sunset. The bird fauna were observed using binoculars and the status of each bird was stated as follows: M is migratory; R is resident; C is common; r is rare; WM is winter migrant; and SM is summer migrant.

In indirect data collection, hunters, wildlife staff, local residents, farmers, and other knowledgeable persons were interviewed about the present and past status of the birds diversity of the study area. The main focus was made by visiting study area rather than relaying the data which was collected indirectly.

3. Results

The survey was conducted from January 2013 to December 2013. In this survey total 138 species were recorded which belong to 13 orders and 48 families (see Table 1). The fauna of the study area was rich due to the current cease fire in the district Swat due to the current terrorism situation in the area. Most of the birds were migratory. Orders Anseriformes, Apodiformes, Charadriiformes, Columbiformes, Pelecaniformes, Phoenicopteryiformes, and Psittaciformes were found migratory and orders Ciconiiformes, Coraciiformes, Gulliformes, and Piciformes were found resident while some members of Gruiformes and Passeriformes were found migratory and some resident.

Feeding and habitat availability play an important role in the diversity and distribution of the avian fauna of area. The flora of the study area was rich and due to the thick flora the study area was bearing rich avian fauna. As the flora of the study area was very thick the Quails and Grey Partridge were found in large numbers as there were many places of shelters for their breeding and other activities.

It was observed that the birds were hunted but the hunting ratio was low due to the current situation of terrorism in Swat; therefore the bird fauna was rich. In our study the Alectoris chukar was found widely in many numbers due to less hunting in the study area due to the cease fire in Swat.

During the survey total 15 species belonging to family Anatidae were recorded and all were summer migratory (SM); all the species were rare (r) except Mergus merganser which was common. The species of family Apodidae were found migratory and were rare in number. Most of the species of the order Charadriiformes were found migratory and were summer migratory (SM) and were found to be common, while Vanellus vanellus was winter migratory (WM) and was recorded as rare (r). All species of the families Ardeidae and Ciconiidae were found resident (R) but were rare in numbers. The species of family Columbidae were found migratory (M), and all were found as common (C) except Chalcophaps indica, Treron pompadora, and Treron phoenicoptera which were rare in numbers. The species of the order Coraciiformes were resident (R) and were common (C), while Upupa epops was found rare (r). The members of family Phasianidae were resident (R) and were found as common (C). The members of the families Turnicidae and Railidae were resident (R) and were common (C), while the members of family Gruiformes were migratory (M) and were also noted as common (C). Most of the species of the order Passeriformes were resident (R) and were common except Sturnus vulgaris, Hirundo rustica, and Terpsiphone paradise which were found to be winter migratory (WM) and were common, while Dicrurus macrocercus and Carpodacus pulcherrimus were summer migratory (SM) and were common. All members of the order Psittaciformes were summer migratory (SM) and were found common. Species of the order Phoenicopteryiformes were found summer migratory (SM) and were rare in numbers. The Dendrocopus moluccensis was the only member of family Picidae recorded during the study and was resident (R) and was found as rare (r). Members of family Psittacidae were found migratory (M) and were common.
| Order                  | Family      | Scientific name   | Local name | Status       |
|------------------------|-------------|-------------------|------------|--------------|
| Anseriformes           | Anatidae    | Aythya baeri      | Shingare   | M (SM) (r)   |
| Anseriformes           | Anatidae    | Anas formosa      | Shingare   | M (SM) (r)   |
| Anseriformes           | Anatidae    | Tadorna ferruginea| Shingare   | M (SM) (r)   |
| Anseriformes           | Anatidae    | Anas falcate      | Shingare   | M (SM) (r)   |
| Anseriformes           | Anatidae    | Anas strepera     | Shingare   | M (SM) (r)   |
| Anseriformes           | Anatidae    | Anas crecca       | Shingare   | M (SM) (r)   |
| Anseriformes           | Anatidae    | Anas platyrhynchos| Shingare   | M (SM) (r)   |
| Anseriformes           | Anatidae    | Anas poecilorhyncha| Shingare  | M (SM) (r)   |
| Anseriformes           | Anatidae    | Anas acuta        | Shingare   | M (SM) (r)   |
| Anseriformes           | Anatidae    | Anas crecca       | Shingare   | M (SM) (r)   |
| Anseriformes           | Anatidae    | Aythya nyroca     | Shingare   | M (SM) (r)   |
| Anseriformes           | Anatidae    | Clangula hyemalis| Shingare   | M (SM) (r)   |
| Anseriformes           | Anatidae    | Bucephala clangula| Shingare  | M (SM) (r)   |
| Anseriformes           | Anatidae    | Mergus merganser  | Shingare   | M (SM) (C)   |
| Apodiformes            | Apodidae    | Tachymarptis melba| Lagaraí    | M (r)        |
| Apodiformes            | Apodidae    | Cypsiurus balasiensis| Lagaraí   | M (r)        |
| Apodiformes            | Apodidae    | Apus pacificus    | Lagaraí    | M (r)        |
| Apodiformes            | Apodidae    | Apus nipalensis   | Lagaraí    | M (r)        |
| Apodiformes            | Apodidae    | Apus pallidus     | Lagaraí    | M (r)        |
| Charadriiformes        | Scolopacidae| Limosa lapponica  | Tum Tel    | M (SM) (C)   |
| Charadriiformes        | Scolopacidae| Calidris ferruginea| Tum Tel   | M (SM) (C)   |
| Charadriiformes        | Scolopacidae| Lymnocryptes minimus| Chaghat   | M (SM) (C)   |
| Charadriiformes        | Scolopacidae| Calidris acuminata| Tum Tel    | M (SM) (C)   |
| Charadriiformes        | Scolopacidae| Limicola falcinellus| Tum Tel   | M (SM) (C)   |
| Charadriiformes        | Scolopacidae| Actitis hypoleucos| Tum Tel    | M (SM) (C)   |
| Charadriiformes        | Scolopacidae| Calidris alpina   | Tum Tel    | M (SM) (C)   |
| Charadriiformes        | Scolopacidae| Calidris alba     | Tum Tel    | M (SM) (C)   |
| Charadriiformes        | Scolopacidae| Calidris temminckii| Tum Tel   | M (SM) (C)   |
| Charadriiformes        | Dromadidae  | Dromas ardeola    | Tum Tel    | M (SM) (C)   |
| Charadriiformes        | Recurvirostridae| Himantopus himantopus| Tum Tel   | M (SM) (C)   |
| Charadriiformes        | Glareolidae | Cursorius cursor  | Tum Tel    | M (SM) (C)   |
| Charadriiformes        | Glareolidae | Cursorias coromandelicus| Tum Tel   | M (SM) (C)   |
| Charadriiformes        | Charadriidae| Vanelius vanellis | Babozai    | M (WM) (r)   |
| Charadriiformes        | Charadriidae| Charadrius hiaticula| Tum Tel    | M (SM) (C)   |
| Charadriiformes        | Charadriidae| Vanelius leucurus | Tum Tel    | M (SM) (C)   |
| Charadriiformes        | Charadriidae| Charadrius mongolus| Tum Tel    | M (SM) (C)   |
| Charadriiformes        | Stercoraridae| Stercorarius pomerinus| Tum Tel   | M (SM) (C)   |
| Charadriiformes        | Laridae     | Larus canus       | —          | M (SM) (C)   |
| Charadriiformes        | Laridae     | Larus heuglini    | Tum Tel    | M (SM) (C)   |
| Charadriiformes        | Laridae     | Larus ridibundus  | Tum Tel    | M (SM) (C)   |
| Charadriiformes        | Rostratulidae| Rostratula benghalensis| Tum Tel   | M (SM) (C)   |
| Charadriiformes        | Haematopodidae| Haematopus ostralegus| Tum Tel   | M (SM) (C)   |
| Ciconiiformes          | Ardeidae    | Ardea modesta     | Bagh       | R (r)        |
| Ciconiiformes          | Ardeidae    | Ixobrychus flavicollis| Bagh      | R (r)        |
| Ciconiiformes          | Ardeidae    | Nycticorax nycticorax| Bagh      | R (r)        |
| Ciconiiformes          | Ardeidae    | Ardea cinerea     | Bagh       | R (r)        |
| Ciconiiformes          | Ardeidae    | Ardea goliath     | Bagh       | R (r)        |
| Order            | Family     | Scientific name          | Local name | Status |
|------------------|------------|--------------------------|------------|--------|
| Ciconiiformes    | Ardeidae   | Ardea purpurea           | Bagh       | R (r)  |
|                  | Ardeidae   | Egretta intermedia       | Bagh       | R (r)  |
|                  | Ardeidae   | Egretta gularis          | Bagh       | R (r)  |
|                  | Ardeidae   | Ardea grayii             | Bagh       | R (r)  |
|                  | Ardeidae   | Bubulcus ibis            | Bagh       | R (r)  |
|                  | Ardeidae   | Batorides striata        | Bagh       | R (r)  |
|                  | Ardeidae   | Ixobrychus minutus       | Bagh       | R (r)  |
|                  | Ardeidae   | Ixobrychus cinnamomeus   | Bagh       | R (r)  |
|                  | Ciconiidae | Ciconia nigra            | Zanrai     | R (C)  |
|                  | Ciconiidae | Ephippiorhynchus asiaticus | Zanrai     | R (C)  |
|                  | Columbidae | Chalcophaps indica       | Toti ranga kautara | M (SM) (r) |
|                  | Columbidae | Streptopelia decaocto    | Kautara    | M (SM) (C) |
|                  | Columbidae | Columba livia             | Shna Kautara | M (SM) (C) |
|                  | Columbidae | Columba rupestris        | Shna Kautara | M (SM) (C) |
|                  | Columbidae | Columba leucnota         | Kautara    | M (SM) (C) |
|                  | Columbidae | Columba eversmanni       | Banj karoro kautara | M (SM) (C) |
|                  | Columbidae | Columba palumbus         | Shna Kautara | M (SM) (C) |
|                  | Columbidae | Columba hodgsonii        | Taposai kautara | M (SM) (C) |
|                  | Columbidae | Streptopelia turtur      | Kanra kautara | M (SM) (C) |
|                  | Columbidae | Streptopelia chinensis   | Kautara    | M (SM) (C) |
|                  | Columbidae | Streptopelia senegalensis | Spalama kautara | M (SM) (C) |
|                  | Columbidae | Treron pompadora         | Toti ranga kautara | M (SM) (r) |
|                  | Columbidae | Treron phoenicoptera     | Toti ranga kautara | M (SM) (r) |
|                  | Columbidae | Streptopelia orientalis  | Karkoraikautara | M (SM) (C) |
|                  | Alcedinidae| Halcyon pileata          | Shentagh   | R (C)  |
|                  | Alcedinidae| Alcedo atthis            | Shentagh   | R (C)  |
|                  | Alcedinidae| Megaceryle lugubris      | Mula chargakh | R (C)  |
|                  | Coraciidae | Coracias garrulus       | Shentagh   | R (C)  |
|                  | Upupidae   | Upupa epops              | Mula chargakh | M (r)  |
| Galliformes      | Phasianidae| Alectoris chukar         | Zarka      | R (C)  |
| Galliformes      | Phasianidae| Francolinus francolinus  | Taro       | R (C)  |
| Galliformes      | Phasianidae| Francolinus pondicerianus | Tanzarai  | R (C)  |
| Galliformes      | Phasianidae| Coturnix coturnix        | Batair     | R (C)  |
| Galliformes      | Phasianidae| Coturnix coromandelica   | Batair     | R (C)  |
| Galliformes      | Phasianidae| Perdicula asiatica      | Batair     | R (C)  |
| Galliformes      | Phasianidae| Lophophorus impejanus    | Late       | R (C)  |
| Galliformes      | Phasianidae| Catreus wallichii        | Sham       | R (C)  |
| Galliformes      | Phasianidae| Lophura leucomelasanos   | Taro       | R (C)  |
| Gruiformes       | Turnicidae | Turnix sylviatica        | Nwaraz     | R (C)  |
| Gruiformes       | Turnicidae | Turnix suscitator        | Nwaraz     | R (C)  |
| Gruiformes       | Gruidae    | Grus antigone            | Deng       | M (C)  |
| Gruiformes       | Gruidae    | Grus nigricollis         | Deng       | M (C)  |
| Gruiformes       | Gruidae    | Anthropoides virgo       | Deng       | M (C)  |
| Gruiformes       | Rallidae   | Gallirrex cinerea        | Khwar chargai | R (C)  |
| Gruiformes       | Rallidae   | Gallinula chloropus      | Khwar chargai | R (C)  |
| Passeriformes    | Sturnidae  | Sturnus vulgaris         | Sakhakha   | M (WM) (C) |
| Passeriformes    | Sturnidae  | Acridothes ginginianus   | Kharoo     | R (C)  |
| Passeriformes    | Sturnidae  | Acridothes tristis       | Kharoo     | R (C)  |
### Table 1: Continued.

| Order         | Family           | Scientific name               | Localname | Status |
|---------------|------------------|------------------------------|-----------|--------|
| Passeriformes | Zosteropidae     | *Zosterops palpebrosus*      | Zyar chatai | R (C)  |
| Passeriformes | Dicaeidae        | *Dicaeum erythrorynchos*     | Chatai    | R (C)  |
| Passeriformes | Passeridae       | *Passer domesticus*          | Chanchanra| R (C)  |
| Passeriformes | Corvidae         | *Corvus splendens*           | Kargha    | R (C)  |
| Passeriformes | Corvidae         | *Corvus corone*              | Kagha     | R (C)  |
| Passeriformes | Leiothrichidae   | *Turdoides caudata*          | Soorra    | R (C)  |
| Passeriformes | Hirundinidae     | *Hirundo rustica*            | Totakarkai| M (WM) (C) |
| Passeriformes | Dicruridae       | *Dicrurus macrocercus*       | Toranakha | M (SM) (C) |
| Passeriformes | Monarchidae      | *Terpsiphone paradise*       | Partoghakhai | M (WM) (C) |
| Passeriformes | Certhiidae       | *Certhia himalayana*         | Tak takai | R (r)  |
| Passeriformes | Ploceidae        | *Ploceus philipinus*         | Tan tanai | R (C)  |
| Passeriformes | Laniidae         | *Lanius vittatus*            | Teghak    | R (r)  |
| Passeriformes | Fringillidae     | *Carduecus pulcherrimus*     | Sur sare  | M (SM) (C) |
| Passeriformes | Pycnonotidae     | *Pycnonotus atriceps*        | Balbala   | R (C)  |
| Passeriformes | Pycnonotidae     | *Pycnonotus leucogenys*      | Balbala   | R (C)  |
| Passeriformes | Pycnonotidae     | *Pycnonotus leucotis*        | Balbala   | R (C)  |
| Passeriformes | Pycnonotidae     | *Pycnonotus cafer*           | Balbala   | R (C)  |
| Passeriformes | Emberizidae      | *Emberiza melanocophala*     | Tan tanai | R (C)  |
| Passeriformes | Emberizidae      | *Emberiza fascata*           | Chanchanra| R (C)  |
| Passeriformes | Emberizidae      | *Melopthus lathami*          | Tan tanai | R (C)  |
| Passeriformes | Motacillidae     | *Motacilla alba*             | Sper lakai| R (C)  |
| Passeriformes | Motacillidae     | *Motacilla madaraspatisensis*| Sper lakai| R (C)  |
| Passeriformes | Motacillidae     | *Motacilla citreola*         | Sper lakai| R (C)  |
| Passeriformes | Motacillidae     | *Motacilla lugens*           | Sper lakai| R (C)  |
| Passeriformes | Campophagidae    | *Pericrocotus erythropygius*  | Tan tanai | R (C)  |
| Passeriformes | Regulidae        | *Regulus regulus*            | Tan tanai | R (C)  |
| Passeriformes | Aegithinidae     | *Aegithina tiphia*           | Tan tanai | R (C)  |
| Passeriformes | Cinclidae        | *Cinclis pallasi*            | Dabagi    | R (C)  |
| Pelecaniformes| Phaethontidae    | *Phaethon aetherus*          | Batha     | M (SM) (C) |
| Pelecaniformes| Pelecanidae      | *Pelecanus onocrotalus*      | Batha     | M (SM) (C) |
| Pelecaniformes| Pelecanidae      | *Pelecanus philippensis*     | Batha     | M (SM) (C) |
| Pelecaniformes| Pelecanidae      | *Pelecanus cristus*          | Batha     | M (SM) (C) |
| Pelecaniformes| Anhingidae       | *Anhinga melanogaster*       | Batha     | M (SM) (C) |
| Phoenicopteriformes| Phoenicopteridae | *Phoenicopterus roseus*     | Deng      | M (SM) (r) |
| Phoenicopteriformes| Phoenicopteridae | *Phoenicopterus minor*      | Deng      | M (SM) (r) |
| Piciformes    | Picidae          | *Dendrocopes moluccensis*    | Tak takai | R (r)  |
| Psittaciformes| Psittacidae      | *Psittacula krameri*         | Toti      | M (C)  |
| Psittaciformes| Psittacidae      | *Psittacula himalayana*      | Toti      | M (C)  |
| Psittaciformes| Psittacidae      | *Psittacula cyanoccephala*   | Toti      | M (C)  |

### 4. Discussion

The food availability, feeding, and habitats may be the main factors of variation in the birds population slightly than any other risk [20]. In our study it was found that feeding and habitat availability play important roles in the diversity and distribution of the avian fauna of area. The flora of the study area was rich and due to the thick flora the study area was bearing rich avian fauna.

The birds are intensively hunted and captured in their native range in Pakistan, owing to which local populations could be declining, but the overall status of the species is regarded as stable [12–14]. In our study it was observed that the birds were hunted but the hunting ratio was low due to current situation of terrorism in Swat; therefore the bird fauna was rich.

To avoid the severe winter season a large number of birds migrate from central Asian countries and Europe towards wetlands of Pakistan. There are seven fly zones all over the world in which one zone (Indus fly zone) is present in Pakistan. The birds reach Pakistan flying over Karakorum, Sulaiman Ranges, and Hindu Kush along the Indus River.
Falcons, cranes, swans, ducks, flamingos, waders, and geese are important migratory birds in host country [21]. Similarly in our study the migratory birds recorded were ducks, geese, and swans, which were mostly summer visitors.

Birds are normally found foraging in open cultivated tracks and grasslands intermixed with scrub forests and are rarely observed above an elevation of 1200 m in Pakistan [22]. The elevation of the study area ranges from 4500 to over 6000 meters.

Rose ringed parakeet, house crow, house sparrow, mynas, and bulbuls were common among the resident birds, while kingfisher, koel, rollers, and tree pie were rare in number and have small spread families [23]. House sparrow, house crow, myna, and bulbul were recorded as residential and abundant as also reported previously [24, 25]. In our study the resident birds were chukars, pheasants, house crow, house sparrow, mynas, and bulbuls which are quite similar to the previous studies.

Common sandpiper is common winter visitor to Azad Kashmir. Plumbeous redstart and river chats are also common and locally migrant [25]. Similarly in our study sandpipers were found as winter visitors.

*Alectoris chukar* has worldwide distribution, which is found in India, Afghanistan, Middle East, and western Himalayas, east to central Nepal [6]. In Pakistan, *Alectoris chukar* is very adaptable to all kinds of the arid, rocky, and hilly country ascending to the higher mountain valleys of the inner Himalayas ranges [15] and bare, arid hillside of the Punjab and western Himalayas [26]. It is distributed throughout Pakistan in certain places, that is, Punjab, Sind, Baluchistan, Chitral, Salt range, Swat, Kohistan, and Gilgit [15, 26]. This bird is also found throughout the AJK [27]. In our study the *Alectoris chukar* was found widely in many numbers due to less hunting in the study area due to the cease fire in the Swat.

The Grey Francolin (*Francolinus pondicerianus*) is widely associated with the drier regions of the Indus plains and has penetrated the Thar Desert in Sindh, as well as the Thal and Cholistan deserts in Punjab. The species also appears in the lower hills of the Makran and Lasbela districts in Balochistan, the Cherat and Kohat districts of Khyber Pakhtunkhwa province, the salt range and agroforestry tracks of the Pothwar Plateau in the Punjab, and the Margalla hills of Islamabad [17, 18]. In our study the Grey Francolin was found in many numbers.

The Quail carries out all its vital functions (feeding and nest-building) in the herbaceous strata of natural coastal grasslands (abundant grasses), high altitude prairies (e.g., uncultivated land in the Aveyron and Capcir, France) or, as for the Grey Partridge *Perdix perdix*, the grassy areas of open agro systems (with the notable exception of ryegrass). The Quail prefers cover which, although dense enough to provide protection, allows fluid movements, hence the choice of alfalfa, winter barley, and winter wheat when still green and showing abundant basal leaves or early shoots [28]. As the flora of the study area was very thick, the Quails and Grey Partridge were found in large numbers as there were many places of shelters for their breeding and other activities.

Red Turtle Dove is summer visitor and spotted dove is common [15]. The work of [25] reported its status as common. This species is found in Himalaya and Kashmir but locally migrant [24]. In our study the Rock Pigeon, Hill Pigeon, Snow Pigeon, Pale-backed Pigeon, Common Wood-Pigeon, Speckled Wood-Pigeon, Eurasian Turtle Dove, and other members of the same family were recorded as migratory and were found to be summer visitors.

### 5. Conclusion

Hunting and habitat destruction are major threats to wildlife. Fauna of an area depends on the flora present in the area because it provides food and shelter to the fauna and destruction of the habitats also results in the elimination or migration of species. The avian fauna of the study area was rich because the flora was thick. Hunting in the study area was very much loss due to the cease fire in Swat due to the current situation of terrorism in Swat. It was concluded from the current study that hunting and habitat destruction are the major threats to the wildlife.

### Conflict of Interests

The authors declare that there is no conflict of interests regarding the publication of this paper.

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