



SPECIES DIVERSITY AND POPULATION STATUS OF *ALECTORIS CHUKAR* IN MAIDAN VALLEY (DISTRICT DIR LOWER) PAKISTAN

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ABSTRACT

A study was conducted to gather information about the distribution, population, presence and habitat utilization of *Alectoris chukar* in Maidan Valley. Surveys were usually scheduled early in the morning and at evening in different seasons from 2006-2011. The areas, which *Alectoris chukar* occupied, had dominant vegetation of *Pistacia integerimia*, *Pinus roxburghii*, *Pinus wallichiana*, *Barberis lycium*, *Olea ferruginea*, *Zanthoxylum armatum*, *Indigofera heterantha*, *Juglans regia*, and *Rumax hastatus*. The loss of habitat, hunting and egg collection are the major threat to the existing wild life including *Alectoris chukar*.

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INTRODUCTION

Alectoris chukar is a gamebird (IUCN, 2008) in the *Phasiandae* family of pheasant and has well marked black and white bars on the flanks and a black band running from the forehead across the eye and running down the head to form a necklace that encloses a white throat. The Chukar is a rotund 32–35 cm long partridge, with a light brown back, grey breast, and buff belly. The shades vary across the various populations. It has Rufus-streaked flanks, red legs and coral red bill. Sexes are similar, the female slightly smaller in size and lacking the spur (Rasmussen and Anderton, 2005). The tail has 14 feathers; the third primary is the longest while the first is level with the fifth and sixth primaries (Blanford, 1898). *Alectoris chukar* has its native range in Asia, from Israel and Turkey through Afghanistan to India, along the inner ranges of the Western Himalayas to Nepal. It is mainly found at an altitude of 2000 to 4000 m except in Pakistan, where it occurs at 600m (Rasmussen and Anderton, 2005). In Pakistan, it is very adaptable to all kinds of the arid, rocky and hilly country (Awan *et al.*, 2006) ascending to the higher mountain valleys of the inner Himalayas ranges (Roberts, 1991) and bare, arid hillside of the Punjab and western Himalayas (Wood Cock, 1980). It is the national bird of Pakistan.

Study area

District Dir is located between Chitral and Peshawar along the Afghanistan border with a total area of 1,582 km². Dir is a mountainous area with peaks rising to 4876 m in the north-east and to 3048 m along the

watersheds with Swat to the East and Afghanistan to the West. Most of the population is rural, scattered in more than 1200 villages over the plains of Adenzai and Munda and the deep narrow valleys of the Panjkora and its tributaries. Dir District was officially split into Upper Dir and Lower Dir in 1996 (Anonymous, 1998; Rahatullah *et al.*, 2011).

MATERIAL AND METHOD

The present study was conducted to explore species distribution, habitat utilization and population status of *Alectoris chukar* in Maidan Hills of District Dir Lower from January 2006 to December 2011. The study area was divided in to four major study zones, Asman Banda, Sori Pao, Shaklai and Kalpani Hills. During the survey, direct and indirect methods were used to gather information about its presence, distribution, population status and habitat utilization. For direct observation, the potential areas were thoroughly surveyed. Surveys were scheduled early in the morning and at evening from 3 to 6 PM. Day hours were utilized in gathering indirect evidences. GPS and Binocular were used during field study.

RESULTS AND DISCUSSION

The present study was conducted to explore species distribution, habitat utilization and population status of *Alectoris chukar* in Maidan Hills of District Dir Lower. The survey was carried out in four localities of study zone Asman Banda, Sori Pao, Shaklai and Kalpani Hills. *Alectoris chukar* has worldwide distribution, found in India, Afghanistan, Middle East (Saeed, 2000) and

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Western Himalayas, east to central Nepal (Ali and Ripley, 1987). It is distributed throughout Pakistan and AJK (Wood Cock, 1980; Roberts, 1991; Awan *et al.*, 2006).

During the study period, *Alectoris chukar* were found occupying Asman Banda, Sori Pao, Shaklai and Kalpani Hills of Maidan valley. Their population size varied during the same year in different season, from year to year and from locality to locality. The average population size of mature individuals in all study zones in 2006 were 149, in 2007 were 111, in 2008 were 92, in 2009 were 146, in 2010 were 222 and in 2011 were 276 (Table 1). During the year 2009 their number was slightly increased due to army operation, as nobody was allowed to hunt any bird in the study area.

Table 1 Population size of mature individuals of *Alectoris chukar* in Maidan valley

Locality	2006	2007	2008	2009	2010	2011
Asman Banda	29	24	21	33	52	64
Sori Pao	42	36	27	45	58	72
Shaklai	33	21	18	28	52	65
Kalpani Hills	45	30	26	40	60	75
Total	149	111	92	146	222	276

The over all seasonal data indicated that there is almost an increasing trend in the month of September due to the breeding output in summer and their number decline in the month of October due to the change in its activity pattern as the climate gradually becomes harsh and most of the area is devoid of crops and other vegetation covers that intern might change the behavior and activity pattern of this bird. This bird was also found more active and vocal during the summer and early autumn as compared to late autumn the low summer population might be due to the reasons that in this season the bird occupied high altitude, which some times are inaccessible and can cause discrepancies in estimating its population.

Distribution and habitat: *Alectoris chukka* is very adaptable to all kinds of the arid, rocky, hilly, stony, sparsely scrub-covered hillsides, boulder-strewn ravines (Roberts, 1991). *Alectoris chukar* was found occupying different altitudinal ranges in different zones and months (Awan *et al.*, 2006). It was usually found between 3000 - 9000 ft in different zones.

During present study *Alectoris chukar* were found in small coveys of 10 to 30 birds in the non-breeding season and in the form of pairs in summer. During breeding time they call frequently in mornings and evenings. It prefers to run rather than fly. In study area the nests were sheltered by ferns and small bushes, placed in a dip or rocky hillside under a overhanging rock. In nests the number of eggs was from 6-12, and the hatching process was recorded to complete in 25 days. In study area it was also observed that their eggs are not well protected and local people collect their eggs when they found. *Alectoris chukar* was found preferring the habitats of the study area having dominant vegetation of *Pinus roxburghii*, *Pinus wallichiana*, *Olea ferruginea*, *Pyrus communis*, *Ailanthus altissima*, *Indigofera heterantha*, *Ficus spp*, *Morus alba*, *Barberes lycium*, *Juglans regia*, *Pistacea integerima*, *Rumix hastatus* and *Zanthoxylum armtum*.

Food *Alectoris chukar* depends on feeds the seeds of cheat grass, Russian thistle, rough fiddle neck, seeds of Indian rice grass, Curly dock and mustard. It also eats grass blades, stems and buds of a variety of plants, wild onion seeds, grasshopper and caterpillar. It was also reported that the food of this bird consist of vegetable matter including seeds, leaves, berries and bulbous roots (Roberts, 1991). They descend for water daily in morning between 6-9AM in different seasons. It was observed in the study area that *Alectoris chukar* feed on insect, vegetable, grains of the Maize, falling fruits of the *Ficus*, and fruit of *Barberes lycium*.

Activities *Alectoris chukar* is very active in the early morning and evening (Roberts, 1991). During the survey, *Alectoris chukar* was found much active during daybreak and nightfall and was found performing different activities like sitting, calling, eating, watching and flying.

CONCLUSIONS

It is concluded from the present study that the *Alectoris chukar* is found in Maidan valley and hunting is the main cause in reduction in its population size. The local community in Maidan valley is degrading the biodiversity of the area. Majority of the people are very poor, uneducated and unaware of the biodiversity conservation. Hunting, eggs braking and habitat destruction are major threat to wild life of the study area.

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