



Research Paper

POPULATION DYNAMICS OF BLACK FRANCOLIN (*Francolinus francolinus*) FROM NIJMULA VALLEY, GARHWAL HIMALAYA, INDIA

Manish Kukreti

Department of Zoology,
Govt. P.G. College, Gopeshwar,
Chamoli-246401, Uttarakhand,
India.

Abstract

The Black francolin is one of the common species of the family Phasianidae found in Garhwal Himalaya, where its distribution is confined to the Shivalik plains and associated hills up to 1500 m. above mean sea level. It inhabits scrub jungle near cultivation in extremely arid areas. It is typically found in pairs but coveys of four to eight birds are also known. Adults feed on insects, especially grasshoppers, while the young prefer ants and their larvae. Total of 400 individuals, maximum 56 individuals records in December month and minimum 16 individuals records in month of April. Similarly maximum group size record in (4.6) in January and minimum (1.87) in month of April respectively.

Key words: *Black francolin, Population, Density, Garhwal Himalaya.*

INTRODUCTION

The knowledge of population dynamics of any animal species is prerequisite for a wildlife manager or game biologist because successful management needs accurate information on population size at particular time of year or season. Population size or density of an organism depends on many factors viz., habitat size, ecology, food, reproductive success etc. Black francolin *Francolinus francolinus* (Baker, 1921) known as Black partridge in India, is important group of game birds, belong to the order-Galliformes, family- Phasianidae- Black francolin are widely distributed game birds, found in America, Europe and South Africa (Hume and Marshall, 1879, Grimmett et.al., 1998 and Ali and Reply 1983). They inhabit same arid mountainous, thicker growth of tall grasses, through on branches of trees for calling (Roberts, 1991, Del Hoyo et. al., 1994). This francolin species has been providing hunting pleasure and dining table delicacy for the rich, source of bush meat for the poor, allurements for its keeper as pet, and helps the farmer in controlling insect pest infestation (Fuller et. al., 2000). In this paper we described findings of the study carried out on Monthly and seasonal variation in population and density of Black francolin for one year in Nijmula valley, Garhwal Himalaya.

STUDY AREA AND METHODOLOGY

Black francolin (*Francolinus francolinus*) is common game bird of the Garhwal Himalaya, Uttarakhand and known as "Teetar" in the vernacular language. A residential population of this bird was studied at Nijmula valley in Garhwal Himalaya, Uttarakhand. The study site was located on the south facing slope and spread in 5km² area. The study area comprised by mixed temperate forest (*Pinus roxburghii*, *Cedrus deodara* and *Cupressus* species), scrubs (*Rubus*, *Berberis*, *Rhus*, *Euphorbia* etc.) grass land and bare ground. Adjacent agricultural fields of a small village which are generally used to grow Kharif crops (from May to October) and Rabi crops (from November to April) also constitute parts of the habitat.

From September 2016 to August 2017, regular visit for 8-12 days were made every month to record information on sighting, population of Black francolin. Using transect/trail walks method (Javed and Kaul, 2002) data were collected on total number of birds sighted, group size in a months, biotic pressure etc. In the study site, many trails were laid by local people who daily visit area to fodder and fuel collection, cattle grazing etc. Data was analyzed statistically using formulae.

RESULTS

A total of 400 birds were recorded in 153 observations (Table). Chicks were observed in June, July and August. The group size seen during the study is given in Figure. It is typically found in pairs (Figure), but family parties or conveys of four to eight or more birds are also known, which break up into pairs during the breeding season. Maximum number of birds (56) was observed in December and a minimum (16) bird was recorded in month of April. Of the 153 observation made between September 2016 and August 2017, 30(21.1%) were of solitary birds while the majority 47(31.6%) were pairs. They were often seen pecking about along the Nijmula valley between Badrinath highway and Nijmula village road, especially in early morning and late evening.

Table: Population dynamics of Black Francolin (*Francolinus francolinus*) from Nijmula valley, Garhwal Himalaya.

Months	No. of Observations	Adults	Young	Total
September 2016	8	18	0	18
October	13	42	0	42
November	10	27	0	27
December	18	56	0	56
January 2017	12	24	0	24
February	21	46	0	46
March	8	21	0	21
April	9	16	0	16
May	13	23	0	23
June	16	26	14	40
July	14	32	19	51
August	11	27	9	36
Total	153	358	42	400

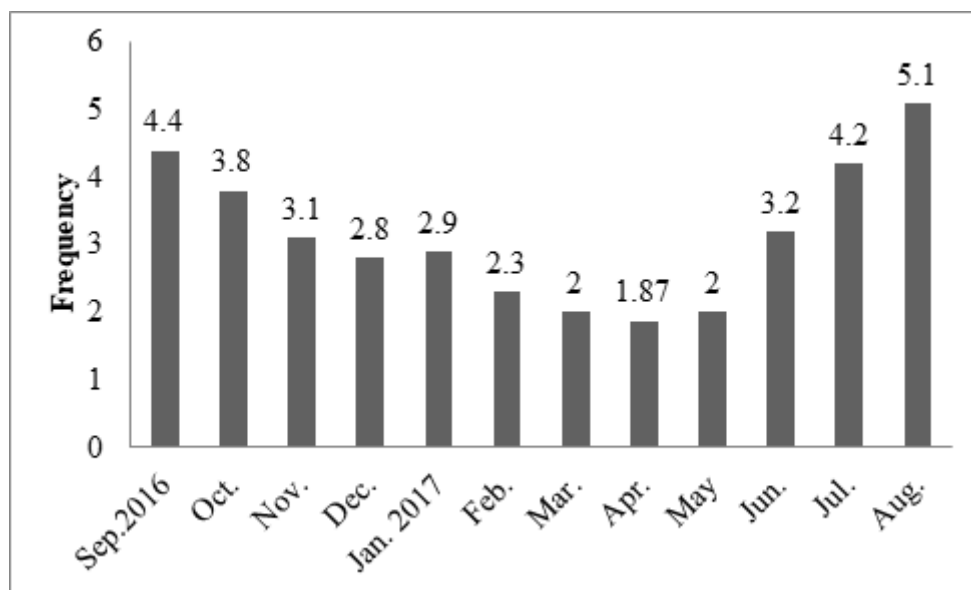


Figure: Group size and density of Black Francolin (*Francolinus francolinus*) from Nijmula valley, Garhwal Himalaya.

DISCUSSION

The Black francolin inhabits open ground dotted with dense vegetation of scrub jungle along the coast close to cultivation Mian and Ghani (2007), in a study designed to evaluate effect of increasing protection on biodiversity under desert conditions of study area, did not record Black francolin. Ali (1941) reported this species from Dahawalpur (Punjab), without pointing specific area it appears that black francolin is an invasive species in India, extending its distribution range with introduction of canal irrigation and subsequent development of thicker vegetation. Present study also suggests common occurrence of Black francolin in suitable habitat of Garhwal Himalaya. Information on population and habitat characteristics reveals that Black francolin is a bird of disturbed habitats present near human habitations and agriculture fields. Anthropogenic activities, e.g., cattle grazing, mowing, forest fire and hunting were recorded at study site. Young et.al., (1987) reported that the regular disturbances are necessary for maintenance of habitats as mowing and fires bring good growth of vegetation and food in the next year.

A sighting of Black francolin in small group (2-8 birds) seems a threat to conservation of this bird in the study area because local old hunters has reported sighting of large conveys consisting more than 16-18 birds in the pest. Despite the Wildlife Protection Act (1972), hunting is still a common practice around the study area. Egg picking for food during breeding period in May-June is another cause of Black francolin population.

CONCLUSIONS

The present study reveals that Black francolin of Garhwal Himalaya variation in relation to time. In spite of these studies, no current report is available on population of Black francolin in Garhwal Himalaya; our knowledge about Black francolin of this habitat is little till date. Present investigation is an attempt which could serge as s benchmark for management point of view and further habitat level research investigation.

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REFERENCES

- Ali, S. and Ripley, S.D. 1983. Handbook of birds of India and Pakistan . Vol. II. 2nd edition. Oxford University Press. Bombay.
- Ali, S.1941. The birds of Bahawalpur (Punjab). J. Bombay Nat, His. Sco., 42: 704-747.
- Baker, E.C., 1921. Indian game birds, pheasants, bustard, quail. *Bombay Nat. Hist. Soc.*, London, UK.
- Del Hoyo, J. Elliott, A. and Sargatal, J. 1994. Handbook of the birds of the world. In: New world vultures to guinea fowl, Barcelona, Pp. 412-567.
- Fuller, A.R., Carroll, P.J. and McGown, P.J.K. 2000. *Partridges, Quails, francolins, snowcocks, guineafowl and turkeys. Status survey and conservation action plan 2000-2004.* WPA/Birdlife/SSC partridges, Quails and francolin specialist group. IUCN, the world conservation union, Gland, Switzerland.
- Grimmett, R., Inskipp, T. 1998. Birds of the Indian Subcontinent. Oxford University Press, Delhi.
- Hume, A.O. and Marshall, C.H.T. 1879. The Game birds of India, Pakistan, Bangladesh, Burma, and Sri Lanka, Calcutta, 1:169-176.
- Javed, S. and Kaul, R. 2002. Field methods for bird surveys. Bombay Natural History Society and world pheasant Association, New Delhi, Pp 61.
- Mian, a. and Ghani, U.I., 2007. Macro-biota variation under human protection in desert ecosystem of Cholistan, Pakistan, *J. Hum. Ecol.* 21:163-172.
- Roberts, T.J. 1991. The Birds of Pakistan.2 vols. Oxford University Press Karachi.
- Young, L., Garson, P.J. and Kaul, R., 1987. Calling behaviour and social organization in the Cheer pheasant; implications for survey technique. J. World Pheasant Assoc., 12:30-43.