International Journal of Ecology and Environmental Sciences 44 (1): 11-15, 2018
ISSN: 2320-5199 (Online)

Short Communication

Distribution of White Rumped Munia (*Lonchura striata acuticauda* Hodgson, 1836) at Doon Valley (Lower Garhwal Himalaya) of Uttarakhand, India

KAMAL KANT JOSHI

Graphic Era Hill University, Department of Environmental Science, Dehradun, Uttarakhand, India
Email: kamal_josi@yahoo.com

ABSTRACT

The Western Himalaya is recognized for its biological diversity and ecological values. During a field survey conducted from February, 2012 to December, 2016 in Doon valley (Lower Garhwal Himalaya) forest, White rumped munia (*Lonchura striata acuticauda*)- a residential bird of southern India, was recorded. Its existence in Doon valley and other parts (Tharali, Nandprayag, Karanprayag) of Garhwal Himalaya indicates the habitat expansion of this bird species.

Key Words: Avian Diversity; Dehradun Forest; Garhwal Himalaya; Distribution Range

INTRODUCTION

About 1313 avian species (13% of the world avian species) have been reported in the Indian sub continent (Grimmett et al. 2011). The western Himalaya region of Indian Himalayan range where the study was conducted is well recognized for its biological diversity and ecological values. These regions have diverse and rich vegetation covers which enhance the avian diversity and their abundance. Due to rich avian diversity and regional endemism this area has been recognized as Endemic Bird Area (EBA 128) by the Bird Life International (Stattersfield et al. 1998). Western Himalaya region has mesmerized a number of researchers, ornithologists and bird watchers on avian studies. Several researchers (Lamba 1987, Tak et al., 1987, Sankaran 1995 and Sathyakumar 2003) have surveyed in Nanda devi National Park, (Bhattacharya et al. 2007), Chamoli Garhwal, (Sathyakumar et al. 1992 and Raza 2006), Kedarnath Wildlife Sanctuary, Kumaun Himalaya, (Sultana et al. 2000, Joshi et al. 2009 and Bhatt et al. 2011,) and Garhwal Himalaya foothills (Landsdown) (Mohan et al. 2010) of western Himalaya region.

A periodic avian survey in a habitat helps to collect the basic information along with identification of the priority areas for conservation (Daniels et al. 1991 and Peterson et al. 2000). So far only few studies (Mohan 1996, Singh 2000 and Singh 2006) have been published on avian distribution in Doon valley and its neighboring hills that too about 12 years back. Subsequently, no regular study has been conducted in this area. In the present study, therefore, an attempt has been made for the assessment of changes in the avifauna composition, if any, over a decade.

MATERIALS AND METHODS

The present study was conducted at the Doon valley (29°55′ and 30°30′ N, 77°35′ and 78°24′ E), which covered 85.7% area of Dehradun district of Uttarakhand (Figure 1). Hilly area of Doon valley (range 1300-2500 m) is dominant with the *Rhododendron arboretum*, *Quercus incana*, *Quercus dilatata* and *Cedrus deodara* trees. However, major part of this region (range 300-1300 m) is occupied by the *Shorea robusta*, *Terminalia*

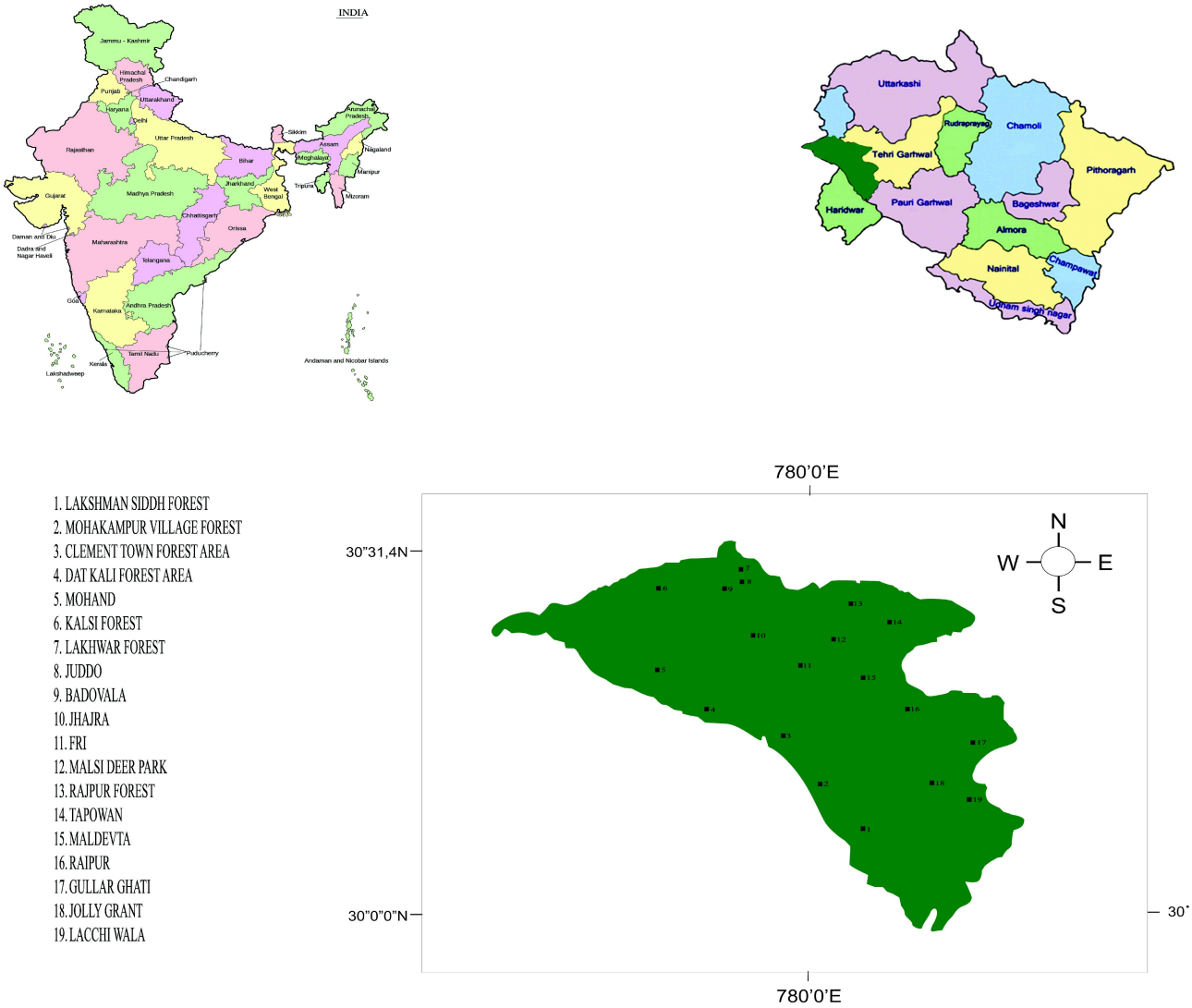

Figure1. Location of sites surveyed in the Doon valley of Uttarakhand

bellerica, *Cedrela toona*, *Dalbergia sissoo* and *Butea monoserma* tree species. Out of these *Shorea robusta* dominates in this area (Champion et al. 1968).

The survey was carried out during February 2012 to December 2016 along the elevational zones in Doon valley. Fixed radius point count along with line transects (Bibby et al. 2000) were applied to quantify the diversity and abundance of bird species elevational zones. The survey was done between 06:00 h, 11:00 h and 16:30 h, 19:00 h in summer months (April–September) and between 07:00 h, 11:30 h and 15:00 h, 16:30 h in winter months (October–March). Though, survey was not done during harsh weather and rainy days. Field guide books (Grimmett et al. 2001 and Kazmierczak 2000) were used for bird species identification and for scientific names a list prepared by IOC World Bird List (v 5.4), (2015) was referred. Total 200 points were studied in all the elevation zones and we stayed for about 5 minutes at each point for bird count.

RESULTS

Two hundred twenty five species belonging to 50 families were reported during the present survey at Doon valley forest of Dehradun district (Lower Garhwal Himalaya). Of these, presence of White rumped munia (*Lonchura striata acuticauda* Hodgson, 1836) indicates their distribution extends in Doon valley (lower Garhwal Himalaya).

Figure 2a. A pair of White Rumped Munia (*Lonchura striata acutiata*) recorded in Doon valley, Dehradun, Uttarakhand

Figure 2b. Single White Rumped Munia reported in Maldevta forest region of Doon valley.

White rumped munia (*Lonchura striata acuticauda* Hodgson, 1836) belongs to Estrildidae family. A pair of individual was recorded on 30 May, 2013 at 08:38 h. on an *Acacia* tree collecting nesting material at 747 m (30°20 0.13" N, 78°8′22.4" E) on the way of Maldevta forest edge of Doon valley (Figures 2a & 2b).

This munia species is about 10-12 cm; in the dorsal part, the mental (the upper part of back) is light brown color with white streak (Figure 3a). Generally, rump looks white in color and covered with dark brown wings, pointed tail with black color (Figure 3b). In ventral part, dark brown throat, breast and white buff belly and light brown (mental color) vent is noted (Figure 3b). The lower mandible color (pale blue grey) may vary from maxilla. However, in juvenile mandible and maxilla color look same (Figure 4). During survey, several photographs were taken and identified with the help of books (Grimmett et al. 2001 and Kazmierczak 2003) and oriental bird club image data (http://orientalbirdimages.org). There is only one previous record of this species in Kumaun Nainital region of Uttarakhand (Walton 1900). In addition, White rumped munia with juveniles were also seen in 2015 and 2016 at Tharali to Karanprayag (30°08 13.4" N, 79°22′36.4" E to 30°16 2" N, 79°15′10" E) (500 m, 665 m, and 856 m to 1010 m elevation range) in Garhwal Himalaya of Uttarakhand. The present study strongly suggests that White rumped munia distribution has expanded from southern part of India to north India Kumaun and Doon valley (Lower Garhwal Himalaya).

Figure 3a. The identification marks (light brown color with white streak) which distinguish it from other Munia species.

Figure 3b. A group of White Rumped Munia recorded from Karanprayag forest region of Garhwal Himalayas.

Figure 4. A juvenile of White Rumped Munia recorded in Tharali region of Garhwal Himalayas

DISCUSSION

Lounchura striata acuticauda has been cited residential bird in southern part of India to North east region (Kazmierczak 2012, Grimmett 2011). Only one reference (Walton 1900) has been published of White rumped munia (*Lounchura striata* Linnaeus, 1766) that too in Kumaun region (western Himalaya). Some earlier studies (Singh 2000, Singh 2006) have been done in Dehradun and adjacent hills. However, White rumped munia (*Lounchura striata*) has first time been reported in Doon valley. The presence of White rumped munia (*Lounchura striata*) species additions contributes the avian check list of Doon valley. In addition, White rumped munia with juveniles were also recorded in 2015 and 2016 at Tharali to Karanprayag (500 m, 665 m, and 856 m to 1010 m elevation range) in Garhwal Himalaya of Uttarakhand. The present study shows that the white rumped munia is generally distributed in Garhwal Himalaya and is now residential bird of Uttarakhand Himalaya. In addition it is a good sign for healthy forest ecosystem at Doon valley. A long term regional study helps to quantify the avian diversity and encourages the avian biologists. A regular monitoring is required in this area to help fill the gaps in avian check list.

ACKNOWLEDGEMENT

I am grateful to the Graphic Era University for the basic infrastructure support to carry out this work.

REFERENCES

Bhatt, D. and Joshi, K. 2011. Distribution and abundance of avifauna in relation to elevation and habitat types in Nainital district (Western Himalaya) of Uttarakhand state. India. Current Zoology 57(3): 318-329 (www.currentzoology.org/downloadpdf.asp?filetype=pdf&id=11884).

Bhattacharya, T. and Sathyakumar, S. 2007. An ornithological survey of Chenab Valley, Chamoli district, Uttaranchal, including notes on pheasants. Indian Birds 3 (4): 138-145 (http://indianbirds.in/pdfs/IB.3.4.138-145.pdf).

Bibby, C.J.; Burgess, N.D.; Hill, D. A. and Mustoe, S. H. 2000. Bird Census Techniques. Academic Press, London. 302 pages.

Champion, H. G.; Seth. S. K. 1968. A Revised Survey of the Forests Types of India. Government of India Publications, New Delhi, 404 pages.

Daniels, R. J. R.; Hegde, M.; Joshi, N.V. and Gadgil, M. 1991. Assigning conservation value: a case study from India. Conservation Biology 5(4): 464-475.

Grimmett, R.; Inskipp, C. and Inskipp, T. 2011. Birds of the Indian Subcontinent. London: Oxford University Press, 528 pages.

IOC World bird list version 5.4. 2015. http://www.worldbirdnames.org/ioc-lists/master-list-2/ Capture on 16 January 2016.

Joshi, K. K and Bhatt, D. 2009. Avian species distribution in Pine forest and urban habitat of Almora, Uttarakhand, India BERKUT 18 (1):16-21 (http://www.aetos.kiev.ua/berkut/berkut18/fauna18-2.pdf).

Kazmierczak, K. and Van Perlo, B. 2000. A Field Guide to the Birds of India, Sri Lanka, Pakistan, Nepal, Bhutan, Bangladesh and the Maldives. Pica Press, Sussex, UK. 352 pages.

Kazmierczak, K. and Van Perlo, B. 2012. A Field Guide to the Birds of India, Sri Lanka, Pakistan, Nepal, Bhutan, Bangladesh and the Maldives. Pica Press, Sussex. 352 pages.

Lamba, B.S. 1987. Status Survey of Fauna, Nanda Devi National Park (Mammals and Birds). Miscellaneous Publications of the Zoological Survey of India, Calcutta, Occasional Paper 103: 1-50.

Mohan, D. 1996. Birds of New Forest Dehra Dun, India. Forktail 12: 21-32 (http://orientalbirdclub.org/wp-content/uploads/2012/09/Mohan-DehraDun.pdf).

Mohan, D. and Kumar, R. 2010. Breeding birds of Kothri valley, eastern Garhwal Himalaya foothills, India. Forktail 26: 75-85 (http://orientalbirdclub.org/wp-content/uploads/2013/07/Mohan-Kothri.pdf).

Raza, R. 2006. Diversity and Rarity in Avifaunal Assemblages in the Western Himalaya: A Study of Patterns and Mechanisms. Ph.D thesis. Forest Research Institute of India, Deemed University, Dhradun. 160 pages.

Sankaran, R. 1995. Ornithological survey of Nanda Devi National Park, India. Forktail 10: 115-128 (http://orientalbirdclub.org/wp-content/uploads/2012/09/Sankaran-NandaDevi.pdf). .

Sathyakumar, S. 2003. Conservation status of mammals and birds in Nanda Devi National Park: an assessment of changes over two decades. In: Biodiversity Monitoring Expedition Nanda Devi 2003. 1–14. Uttaranchal State Forest Department; Wildlife

Institute of India; GB Pant Institute of Himalayan Environment and Development; and HNB Garhwal University, Srinagar, India

Sathyakumar, S.; Prasad, S.N.; Rawat, G.S. and Johnsingh, A.J.T. 1992. Ecology of Kaleej and Monal pheasants in Kedarnath Wildlife Sanctuary, Western Himalaya. Pages 83-90, In: Pheasants in Asia 1992. World Pheasants Association International, Reading, U.K.

Singh, A. P. 2000. Birds of lower Garhwal Himalayas: Dehradun valley and neighboring hills. *Forktail* 16: 101-123 (http://orientalbirdclub.org/wp-content/uploads/2012/09/Singh-Garhwal.pdf).

Singh, A. P. 2006. New and significant records from Dehradun valley and adjacent hills lower Garhwal Himalayas, India: May 2002 - March 2006. Forktail 22: 160-163. (http://orientalbirdclub.org/wp-content/uploads/2012/09/Singh-DehraDun1.pdf).

Stattersfield, A.J.; Crosby, M.J; Long, M.J. and Wege, D.C. 1998. Endemic Bird Areas of the World: Priorities for Biodiversity Conservation. Bird Life International, Cambridge, UK. 846 pages.

Sultana, A. and Khan, J. A. 2000. Birds of oak forests in the Kumaon Himalaya, Uttar Pradesh, India. Forktail 16: 131–146. (http://orientalbirdclub.org/wp-content/uploads/2012/09/Sultana-Kumaon.pdf).

Tak, P.C. and Kumar, G. 1987. Wildlife of Nanda Devi National Park: An Update. Indian Journal of Forestry 10 (3): 184-190.

Walton, H.J. 1900. Notes on birds collected in Kumaun. Journal of Asiatic Society Bengal 69: 155-168. (http://pahar.in/mountains/1900-journal-asiatic-society-of-bengal-vol-68-part-2-s-pdf/).

Received 3 June 2017
Accepted 21 December 2017