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## SHORT COMMUNICATION

### A BABBLER'S TALE: ASSESSING THE DISTRIBUTION OF *TURDOIDES STRIATA* (DUMONT, 1823) IN INDIA

Nishikant Gupta & Gautam Talukdar

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**Abstract:** The Jungle Babbler *Turdoides striata* is an agriculturally important, non-endemic bird found throughout India, however, very little information is available regarding this less known/less studied species' current distribution and population size. The IUCN Red List of Threatened Species has evaluated the species as 'Least Concern', however, increasing anthropogenic stressors adversely impact the species' natural habitat; and the changing climatic variables could affect its geographical range, population and ecology. An online survey was conducted during 2014–2015 (targeting 232 ornithological forums comprising of over 4,00,000 members) to obtain information on the species' location, and number of individuals in each social group in India. The reported sites were verified during 2016–2017 by visiting the individual locations. A total of 3,030 individual birds forming 400 social groups were recorded from 24 states and union territories of India. This novel study utilized public participation as an important data collection tool for the species, which has a reportedly large distribution range. Importantly, the findings of this study contribute to the existing baseline information on the non-endemic bird species of India.

**Keywords:** Birds, endemic species, Jungle Babbler, public participation, seven sisters.

Species loss to population growth, increasing urbanization (Laurance 2010), and climate change is a global phenomenon, and lesser known/lesser studied species for whom field data is minimal are under the

gravest threat (Lepczyk 2005). This is because a majority of conservation strategies tend to focus on larger, charismatic species (Gupta et al. 2014), and convincing policy makers to implement approaches for such species often requires data collected over longer periods over large geographical areas (McCaffrey 2005; Tulloch et al. 2013). Obtaining such data is further hindered due to conservation initiatives being over-stretched, and shortage of funds from concerned organizations. Public participation can be utilized as a supplementary tool in such cases to document species-relevant information (McCaffrey 2005; Bonney et al. 2009; Jiguet et al. 2012).

Public participation in data collection has the potential to assist in obtaining scientific knowledge (Bonney et al. 2009) by broadening the geographical limit of the research (Cohn 2008), and collecting previously difficult to obtain data (Dickinson et al. 2012). It can also provide a platform for the public to participate in an educational initiative (Brossard et al. 2005), and develop a scientific and social connection with the species (McCaffrey 2005; Dickinson et al. 2012); examples include the Breeding Bird Survey (BBS), the Christmas Bird Count (CBC), the Project Feeder Watch (PFW) (McCaffrey 2005; Silvertown



## A BABBLER'S TALE: ASSESSING THE DISTRIBUTION OF *TURDOIDES STRIATA* (DUMONT, 1823) (AVES: PASSERIFORMES: LEIOTHIRICHIDAE) IN INDIA

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Image 1. Jungle Babbler *Turdoides striata* in the wild

2009), the Common Bird Monitoring of India (CBMI), and MigrantWatch started by NCBS in 2007 to collect data on seasonal birds visiting India. The collected data, however, has the potential for sampling bias, observer variability, and detection probability (Lepczyk 2005; Mccaffrey 2005; Dickinson et al. 2012), and could require ground validation (Bonter & Cooper 2012; Jiguet et al. 2012).

The Jungle Babbler *Turdoides striata* (Dumont, 1823) (Order: Passeriformes; Family: Leiothrichidae) is a non-migratory, insectivorous bird found in India (BirdLife International 2016) (Image 1). They are cooperative breeders with a breeding female, a dominant male breeder, and non-breeding helpers (Gaston 1977; Bharucha & Padate 2010; Bhavna & Geeta 2010). There are five subspecies of *Turdoides striata* in India—*striata*, *sindiana*, *somervillei*, *malabarica*, and *orientalis* (Collar & Robson 2018). The IUCN Red List of Threatened Species has categorized the Jungle Babbler as Least Concern with a stable population trend (BirdLife International 2016). Jungle Babblers have been reported as being valuable for local livelihood in the semi-arid tropical and subtropical regions of India, as they feed on pests which damage important protein crops (Bharucha & Padate 2010).

The aim of this study was to obtain information on the current distribution of Jungle Babblers in India through public participation, and contribute to the baseline information. A web-based survey was conducted between 2014 and 2015 to obtain data on the distribution of Jungle Babblers in India (Oppermann 1995; Lazar & Preece 1999; Andrews et al. 2003). The survey consisted of questions relating to—the species' location, group size, (i.e., total number of birds present in each sighted group), and existing conservation concerns. Over 4,00,000 professional/amateur ornithologists were approached through 232 online forums to reduce

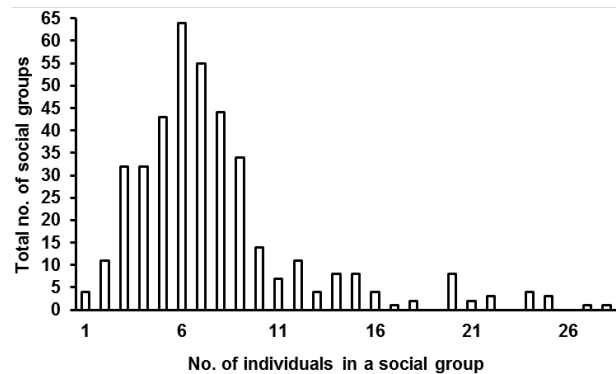


Figure 1. The number of individuals documented within the observed social groups (n=400) of Jungle Babblers through the web-based survey

identification bias (see Lepczyk 2005). The survey was updated every week to maintain interest, and no changes were made to the questions during the survey period (see Zhang 2000). Prior to data collection, a pilot test was conducted among randomly selected respondents (n=50) to highlight issues with the survey's completion (see Andrews et al. 2003). Of the documented bird sightings, 85% of the locations were visited to validate the presence of the Jungle Babbler (during 2016–2017). The remaining 15% of the sightings were reported  $\geq 5$  times from similar locations by different observers, hence, not validated.

A total of 3,030 birds forming 400 social groups were documented from 24 states/union territories of India (Table 1). There were no observations recorded from 12 states/union territories, (i.e., Arunachal Pradesh, Jharkhand, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim, Tripura, Andaman & Nicobar Islands, Dadra & Nagar Haveli, Daman & Diu, and Lakshadweep). The modal value for group size (i.e., number of individual birds in a group) was calculated from the documented social groups (n=400): 16% (n=64) of the social groups consisted of six individuals; followed by 14% (n=55) with seven individuals (Fig. 1).

Importantly, respondents (n=54) additionally reported concerns along with their species' sightings: the survival of an individual bird was dependent on a large and healthy social group as it provided protection for individuals and nests from predators and from competitors during foraging; and anthropogenic activities had greatly reduced the natural habitats of the species, (i.e., destruction of tall trees used for perching and building nests, and removal of shrubs and hedges which provide feeding grounds).

The public participation survey provided a cost-effective strategy for this study, and assisted in

**Table 1. Total number of individual Jungle Babblers (n=3,030) and social groups (n=400) observed in the various States and Union Territories (n=24) of India (\* = no observations; currently under investigation)**

State and union territory	Total no. of social groups observed	Total no. of individuals recorded	State and Union Territory	Total no. of social groups observed	Total no. of individuals recorded
Andhra Pradesh	4	25	Nagaland	*	*
Arunachal Pradesh	*	*	Odisha	29	339
Assam	15	75	Punjab	23	198
Bihar	3	33	Rajasthan	24	130
Chhattisgarh	2	14	Sikkim	*	*
Goa	15	145	Tamil Nadu	19	93
Gujarat	1	5	Telangana	1	7
Haryana	4	39	Tripura	*	*
Himachal Pradesh	4	31	Uttar Pradesh	25	199
Jammu & Kashmir	2	9	Uttarakhand	22	207
Jharkhand	*	*	West Bengal	26	224
Karnataka	27	177	Andaman and Nicobar Islands	*	*
Kerala	32	179	Chandigarh	3	37
Madhya Pradesh	5	52	Dadra and Nagar Haveli	*	*
Maharashtra	95	653	Daman and Diu	*	*
Manipur	*	*	Lakshadweep	*	*
Meghalaya	*	*	New Delhi	18	144
Mizoram	*	*	Puducherry	1	15

documenting valuable information regarding the current distribution of Jungle Babblers in India.

Informal discussions with local community members during the site verification in 2016 and 2017 (N=232; males=210, females=22; age group=18–76 years) revealed that the initiative had helped to increase awareness about the species.

There was no Jungle Babbler sightings reported from 12 states/union territories (Table 1). Although the survey was promoted widely to reduce sampling bias (Gupta et al. 2016), it is possible that either these areas were not sufficiently reached for responses, or there is potentially a scarce distribution of the species here.

The IUCN Red List of Threatened Species mentions that the Jungle Babbler has an extremely large range (BirdLife International 2016), and our findings make similar observations. The species' population size has not been quantified till date (BirdLife International 2016) therefore, our data attempts to add to the baseline information regarding the number of individuals at observed locations in India; however, we acknowledge that there is a need to consider factors such as mortality due to predation/illness, and intra- and inter-social complexities before arriving at such a conclusion.

Jungle Babblers have been reported as being

important for agro-ecosystem practices in India as they feed predominantly on the insects which infest important agricultural crops (Bharucha & Padate 2010) hence, assist in supporting the livelihood of local communities. The existing and increasing anthropogenic stressors could complement the projected change in climate and have a detrimental synergistic impact on the natural habitat of the species—thick canopy cover and sparse or thick ground vegetation in dry deciduous woodlands and moist evergreen forests. It is vital that ongoing and future studies identify the species' 'abundance hotspots', and promote the implementation of targeted strategies to protect such areas through local community involvement. Here, species distribution modelling can convey vital information about the species' real-world distribution between the realized and fundamental ecological niche (Morin & Thuiller 2009).

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#### Erratum

**Pawar, S.D., S.V. Thite, A.S. Kadam & B.A. Kore (2018).** First report of rust fungi *Puccinia duthiae* on *Dichanthium foveolatum* from India. *Journal of Threatened Taxa* 10(2): 11354–11355; <http://doi.org/10.11609/jott.3630.10.2.11354-11355>

The title should read: First report of rust fungus *Puccinia duthiae* on *Dicanthium foveolatum* from India.



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