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Ecological distribution and analysis on the current distribution of Rufous-throated wren babbler (*Spelaeornis caudatus*) in the Indian Himalayan Region

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Abstract

A review on the geographical distribution of Rufous-throated wren babbler in the Indian Himalayan Region was made based on photographic documentation and available scientific literature. Rufous-throated wren babbler is endemic to Eastern Himalayas and inhabits the dense undergrowth of forests in the Indian states of Arunachal Pradesh, Sikkim and Northern part of West Bengal. With an altitudinal range of 1,500 m to 2,500 m asl and occasionally to 3,100 m asl it is a restricted range bird whose population is declining due to habitat loss. This study indicated the highest number of sightings in the state of West Bengal; it was also found out that these species mostly occur in protected forest areas suggesting their specific niche requirements fulfilled by old forests.

Key words : Rufous-throated wren babbler (*Spelaeornis caudatus),* Near-threatened, Eastern Himalayas, Distribution, Arunachal Pradesh, West Bengal, Sikkim.

Rufous-throated wren babbler is an understory and ground-dwelling forest bird. It is a highly elusive species and has not been subject to any in-depth study, mostly because of its skulking nature and also because of its habitat *i.e*. dense undergrowth. Hence, very little is known about them and it is one of the most rarely sighted birds. There are eight species under the genus *Spelaeornis* and of which seven are found in the Indian Himalayan region and parts of South East Asia. *Spelaeornis kinneari* is only the living species not within the Indian Himalayan region. Of the eight species, two are categorized as "Near-threatened" (*S. caudatus* and *S. longicaudatus*) and three as "Vulnerable" *(S. badegularis* and *S. kinneari, S. chocolatinus)* and three as "Least concern" (*S. troglodytoides, S. oatesi* and *S. reptatus*)[16]. The population of this bird is highly fragmented and is suspected to be declining slowly, as a result of habitat loss within parts of its range, precise data on trends are lacking and no targeted conservation actions are known for this species[15]. Today, one in eight bird species is threatened with global extinction, including Asian birds which

are vanishing rapidly largely because of our activities, moreover, birds are found nearly everywhere and so serve as valuable indicators for global environmental change. Forest birds are now isolated and localized due to fragmentation[3]. Also, there is ample evidence that global climate change has already had a detectable effect on terrestrial and marine environments[23]. Birds of the tropical mountains including Himalayas are most vulnerable to climate change[24]. Evidences of upward extension/ shift in altitudinal ranges of species change in breeding seasonality and the breeding failure in birds of Sikkim has been studied and explained[1]. Hence, this paper aims to compile the current distribution of Rufous-throated wren babbler in the Indian Himalayan Region since climate variability also affects bird distribution and abundance indirectly through trophic level impacts on food availability[6].

Taxonomy :

The Rufous-throated Wren-babbler *Spelaeornis caudatus,*[5] (Fig. 1) also names as *Tesia caudate*[5] and Tailed-wren babbler[2] is a member of the family Timaliidae. It was first reported in 1845 by Blyth from Darjeeling. The family of babblers Timaliidae as adopted by [10], or Timaliinae within the catch-all family Muscicapidae as adopted in[8], or Garrulacinae and Timaliini within the family Sylviidae as adopted by[13], represents a rather ill-defined assemblage of species whose affinities to each other and to other families and species are somewhat unclear.

Systematic position:

Class: Aves [18]

Order: Passeriformes[18]

Family: Timaliidae[22]

Genus: *Spelaeornis*[7]

Species: *Spelaeornis caudatus*[5]

Description: A small (9cm.) round and stub-tailed wren babbler [11]. Above, dark brown with a scaly appearance. Below, throat, breast and flanks ferruginous, spotted with black on latter two. Belly slaty, spotted with white. Sexes alike. Distinguished from other wrens by its ferruginous throat[2].

Fig. 1. Adult Rufous-throated wren babbler (*Spelaeornis caudatus)*.

Remark: It is a habitat specialist; it has never been reported to occur in habitats other than which has been described by [2,11]. It is now locally present in parts of Eastern Himalayas with dense evergreen broad leaf forest and very often also within the degraded habitat next to the broad leaf forests. It is a skulking species and hence easily overlooked[4].

Habitat : The Rufous-throated Wren-babbler occurs in dense damp undergrowth of broadleaved evergreen forest, often in steep gullies, especially where ferns, mossy rocks and fallen trees abound, from 1,500 m to 2,500 m, and perhaps occasionally to 3,100 m[4]. They are solitary living, restless, very elusive and silent[2].

Conservation status :

Owing to its restricted global range and an assumed moderately small population, which is likely to be in decline due to loss of habitat, the species has been categorized as 'Near Threatened'[4]. The Status of Nepal's Birds: The National Red List Series also categorizes it to be 'Critically Endangered' species[15].

Historic distribution :

The Rufous-throated Wren-babbler has a known historic range from eastern Nepal, where it is a scarce resident[12], into Sikkim and northern West Bengal (Darjeeling district), then across Bhutan to central Arunachal Pradesh[21]. The global population of the species has not been quantified, but the species is described as very rare in Nepal, frequently recorded in Bhutan, and locally common in India[9].

Methodology :

In order to construct an idea about the recent distribution of the Rufous-throated wren babbler in the Indian Himalayan region (IHR), reference was taken from the published checklists of the birding tour operators, also the checklists published by different protected forest authorities and the details of time and location of pictures taken by wildlife and bird photographers has been used with due permission. Localities of its occurrence within Darjeeling were found out by consulting the local birder and the tour guides. In recent times it has better status only in few of the protected areas of India and Bhutan.

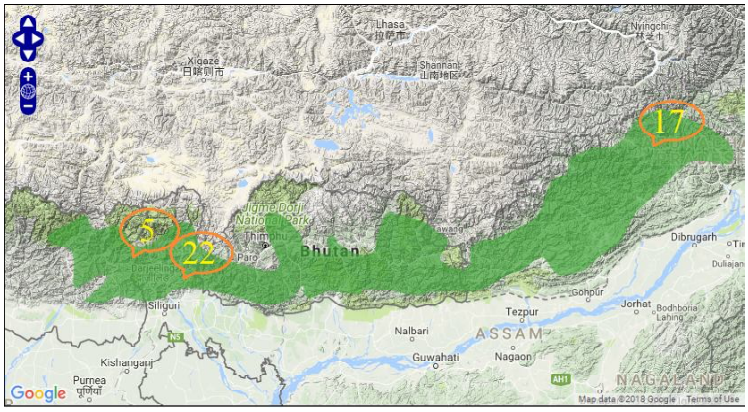

Fig. 2. Distributional range of Rufous-throated wren babbler in green and number of sightings (5 in Sikkim, 22 in West Bengal and 17 in Arunachal Pradesh) in yellow.

Table-1. Sightings of Rufous-throated wren babbler as reported in different States of India

West Bengal :

Place	Year	Source
Darjeeling	1845	Blyth
Senchal	1927	Matthews & Edwards
Mongpu	1927	Matthews & Edwards
Rangiroon	1932	Matthews & Edwards
On the way to Algarah	2003	Peter Lobo
Singalila	2003, 2008	Sen, Dryer
Tiger hill	2008	Sen
Molley, Rimbik	2009	Sibal Sengupta
Chatakpur-Rambi trek route	2012	Sibal Sengupta
Bauxa Tiger Reserve	2012	Biswapriya Rahut
Neora Valley National Park	2002	Christian Artuso
	2010, 2012	Amit Thakurta
	2013	Puja Sharma
	2014	Arpan Saha
	2015	Rejaul Karim, Shantanu Bhattacharya, Santanu Manna.
	2017	Atanu Modak
	2018	Shantanu Bhattacharya

Arunachal Pradesh:

Place	Year	Source
West Kameng District	1982	Ripley
	1989	Ali & Ripley
	1998	Grimmett *et al.*
Talle Valley	1994	Singh
	2015	Krishna *et al.*
Eagles nest Wildlife Sanctuary	2008	Alka Vidya
	2006	Bray & Lobo
	2013	Graham Ekins
	2014	Prasad Basavaraj

	2016 2015 2017	Rejaul Karim, Bhanu Singh Rofikul Islam, Roon Bhuyan Rofikul Islam
Dehang - Debang Biosphere reserve	2014	Rangini *et al.*
Pange	1991 1994	Bhanu Singh Bhanu Singh
Sikkim :		
Place	Year	Source
Sikkim	2011	Environmental Information System Centre Sikkim
Barsey Rhododendron Sanctuary	2013	Dibyendu Ash
Pangolaka Wildlife Sanctuary	2014	Dibyendu Ash
Pakyong	2017	Kusal Gurung
FambongLho Wildlife Sanctuary	2018	Dibyendu Ash

*Details of the sources have been given in the reference and acknowledgement.

The highest number of sightings recorded was found to be from West Bengal's protected areas viz., Neora Valley National Park, Singalila National Park, Senchel Wildlife Sanctuary, Bauxa Tiger Reserve and few from unprotected forests viz., Mongpoo, Rangiroon, Algarah Road, Molley, Chatakpur. The second highest sightings were recorded from Arunachal Pradesh (Eagles-nest Wildlife Sanctuary, Dehang-Debang Biosphere reserve, Kameng District, Talle Valley, Pange). The least number of sightings was from Sikkim (Barsey Rhododendron Sanctuary, Pangolaka Wildlife Sanctuary, Fambong Lho Wildlife Sanctuary, Pakyong).

In a time period of 173 years there are only 44 recorded sightings of this bird. The low sighting records even in its historically known suitable habitat justifies its conservation status as "Near-Threatened". Within its limited range, this species is threatened by the destruction and fragmentation of forest, chiefly through logging and shifting cultivation, and in Nepal by forest loss and degradation to supply local peoples' needs for fuelwood, wood for building materials, livestock fodder and livestock overgrazing[14]. It was last reported in Nepal from Hang Tham in the upper Mai valley, Ilam district in April 1993 [3] suggesting extinction from the country. The sites in which the Rufous-throated wren babbler was sighted are mostly present within protected areas which are moist and dense which has been described as the natural habitat of this bird[2,11]. Naturally, therefore, the presence of these species of flora in the sites that still home these rare birds need urgent survey, study and protection to determine the status of the forests and the continuing presence of the species. Also,

majority of the understory and ground-dwelling bird species were found to have highest density estimates in old growth forest[19].

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References :

1. Acharya, K.B. and B. Chettri, (2012) Effect of climate change on birds, herpetofauna and butterflies in Sikkim Himalaya: a preliminary investigation. In: Arrawatia, L.M. Tambe, S. (Eds) Climate Change in Sikkim - *Patterns, Impacts and Initiatives*, Pp 141-160 Information and Public Relations Department, Government of Sikkim.
2. Ali, S. and S.D. Ripley, (1971) *Handbook of the birds of India and Pakistan*,. Vol. 6. Oxford University Press, London.
3. Bird Conservation Nepal & Department of National Parks and Wildlife Conservation, (2011) *The State of Nepal's Birds 2010*. Bird Conservation Nepal & Department of National Parks and Wildlife Conservation, Kathmandu, Nepal, 96.Pp.
4. Bird Life International, (2022) Species factsheet: *Spelaeornis caudatus*. Downloaded from http://www.birdlife.org on 01/02/2022.
5. Blyth, E. (1845) *Journal of Asiatic Society Bengal 14:* 588.
6. Butler, R.W. and W. Taylor, (2002) A review of climate change impact on birds. USDA Forest Service Gen. Tech. Rep. PSW-GTR-191. 2005.
7. David, A. and E. Oustalet, (1877) Les oiseaux de la China, par M. l'abbe. Avec un atlas de 124 planches, dessinees et lithographiees par M. Arnoul et coloriees au pinceau. American Museum of Natural HistoryResearch Library. Paris, G. Masson.
8. Deignan, H.G. (1964) Subfamily Timaliinae, Babblers. Pp. 240–427in E. Mayr and R. A. Paynter, eds. *Check-list of birds of the world*, 10. Cambridge, Mass.: Museum of Comparative Zoology.
9. del Hoyo, J., A. Elliott, and D. Christie (eds.) (2007) *Handbook of the birds of the world, Picathartes to Tits and Chickadees*, 1st edition, Vol. 12. Lynx Edicions, Barcelona, Spain, Pp. 1–815.
10. Dickinson, E. C. (2003) *The Howard and Moore complete checklist of the birds of the world*. 3rd edition. London: Christopher Helm.
11. Grimmett, R., C. Inskipp, and T. Inskipp, (1998) Birds of the Indian Subcontinent. 1st ed. London: Christopher Helm, A & C Black. Pp. 1–888.
12. Inskipp, C., and T. P. Inskipp, (1991) A guide to the birds of Nepal. London & Washington: A. & C. Black / Christopher Helm & Smithsonian Institution Press.
13. Inskipp, C., H.S. Baral, S. Phuyal, T.R. Bhatt, M. Khatiwada, T. Inskipp, A. Khatiwada, S. Gurung, P.B. Singh, L. Murray, L. Poudyal and R. Amin (2016) *The Status of Nepal's Birds: The National Red List series*. Zoological Society of London.
14. Inskipp, T., N. Lindsey, and W. Duckworth (1996) *An annotated checklist of the birds of the Oriental region*. Sandy, U.K.: Oriental Bird Club.
15. IUCN. (2017) IUCN Red List of Threatened Species. http://www.iucnredlist.org/details /22716112/0. Accessed on 04 March 2022.

16. IUCN. (2022) IUCN Red List of Threatened Species. http://www.iucnredlist.org/details. Accessed on 08 November 2022.
17. Krishna, M., A. Kumar, P. Muthulingam, S. Ramachandran, and L. Hariharan, (2015). *Hornbill. 16:* 15-17.
18. Linnaeus, C. (1758) Systemanaturae per regna trianaturae, secundum classes, ordines, genera, species, cum characteribus, differentiis, synonymis, locis (in Latin).10th edition, Vol. 1. Holmiae (Stockholm): LaurentiiSalvii.
19. Mallari, N.A.D., N.J. Collar, D.C. Lee, P.J.K. McGowan, R. Wilkinson, and S.J. Marsden, (2011) *Fauna & Flora International, Oryx 45*(2): 234–242.
20. Rangini, N., M.S. Lodhi, L.M.S. Palni, S. Chaudhry, and P.K. Samal, (2014) *Indian Forester. 140:* 998-1004.
21. Rasmussen, P. C., and J.C. Anderton, (2005) *Birds of South Asia: the Ripley guide.* 1st edition. Washington, D.C. and Barcelona: Smithsonian Institution and Lynx Edicions. Vol. *1:* 1–378; 1–683.
22. Vigors, N.A. and T. Horsfield, (1827) In M. Guala G, Döring (2022). Integrated Taxonomic Information System (ITIS). National Museum of Natural History, Smithsonian Institution. Checklist dataset https://doi.org/10.15468/rjarmt accessed via GBIF.org on 2022-04-13.
23. Walther, G. R., E. Post, P. Convey, A. Menzel, C. Parmesan, J.D.J. Beebee, M. Fromentin, O. Hoegh-Guldberg, and F. Barlein, (2002) *Nature 416:* 389-395.
24. Wormworth, J. and C.H. Sekercioğlu, (2011) *Winged Sentinels: Birds and Climate Change.* Cambridge University Press.