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Winter distribution of the Blue-throated Flycatcher *Cyornis rubeculoides* in peninsular India

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Rana, Z., Nagarajan, V. M., & Kannan, R., 2023. Winter distribution of the Blue-throated Flycatcher *Cyornis rubeculoides* in peninsular India. *Indian BIRDS* 19 (2): 41–43.

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Manuscript received on 24 January 2023.

Despite being a common and charismatic bird, the Blue-throated Flycatcher's *Cyornis rubeculoides* (hereinafter, BTFL) published wintering range is replete with ambiguity and inaccuracy. It is widely reported to winter in the hills of southern India (Table 1). Here, we report, based on our records plus an analysis of eBird data (eBird 2023), that the species winters throughout the Indian peninsula (principally the southern part) wherever there is suitable habitat (well-wooded parks and gardens, mixed-deciduous and dry broad-leaf evergreen forests with plenty of undergrowth; Ali & Ripley 1987; Clement & Christie 2020), and not just in the hills. We define 'winter' as the period between south-bound and north-bound migrations, i.e., November through February. We modeled this paper based on a previous one we published on the Forest Wagtail *Motacilla indica* (Kannan et al. 2018), which also addressed similar discrepancies in the previously published literature.

Using citizen science data available in the public domain on www.eBird.org (eBird 2023), we compiled 1,571 sightings of the BTFL in peninsular India outside the Western Ghats. We defined Western Ghats as the spine of mountains parallel to the coast of south-western India from about the Tapi River (21.27°N, 73.35°E) southwards to the tip of the Indian peninsula.

Table 1. Published wintering range of the Blue-throated Flycatcher in southern India

Winter range	Source
"Spreads over many parts of the peninsula..."	Ali (1979)
"Winters in.... SW India and Sri Lanka, with scattered records from elsewhere in India."	Grimmett et al. (1999)
Winters in the southern Western ghats, with a "small, isolated population" in the Chennai area.	Distribution map (page 237, plate 74) in Kazmierczak (2000)
Southern Western Ghats and Sri Lanka; "winters in foothills."	Grewal et al. (2002): map on page 290
"Winters in the hills of south India, Western and Eastern Ghats"	Ali (2002)
"Foothills of continental and peninsular India, up to c. 2100m."	Manakadan et al. (2011)
"Winters S W Ghats and possibly Eastern Ghats"; map shows that it is a two-way passage migrant through the eastern part of the Indian peninsula	Rasmussen & Anderton (2012a:260, 2012b)
Winters in "S India (principally Western Ghats)"; map shows the species wintering in S. Western Ghats and N. two-thirds of Sri Lanka	Clement & Christie (2020)

We included all records reported from September through April south of this latitude, which is the principal area where they winter. The 1,571 records included 45 of our own, collected between 1982 and 2020 (15 RK's 1982–1987; 30 VMN's 2011–2020). We created a table (Table 2), which revealed that the species occurred outside the Western Ghats in all months from October through April, not just during its passage migration (Rasmussen & Anderton 2012a,b)—typically August–October for southbound and April–May for northbound migrants.

Table 2. Number of BTFL records from peninsular India (all reports) from areas that are outside the Western Ghats during 1982–2020.

Month	Records
September	2
October	321
November	255
December	222
January	243
February	249
March	209
April	70

We also generated a distribution map of all winter (November–February) sightings of the species in the peninsula (hills and plains) from eBird (Fig. 1). This map shows that the species is not restricted to the southwestern hill regions in winter but is also found elsewhere in the peninsula (plains and foothills of principally the southern part of the peninsula) wherever optimal habitat exists. This distribution is mirrored in SolB (2020), which is also based on eBird data.

To further demonstrate that the species winters in all of the southern peninsula, we generated composite seasonality and frequency bar charts for the BTFL from three discrete areas in the eastern part of the peninsula: Chennai, Bengaluru (formerly, Bangalore; Bengaluru Urban and Rural combined), and Rishi Valley areas (covered as 'counties' in eBird), and compared them with an eBird bar chart from Kerala state, which is part of the south-western winter range of the species (Fig. 1). We did not include a bar chart for the state of Tamil Nadu because the western part of that state encompasses the Western Ghats, which is part of the species' reported winter range. Chennai, Bengaluru, and Rishi Valley are in the species' purported passage migration range (Rasmussen & Anderton 2012a and b). As is evident in Fig. 1, the temporal patterns of occurrence of the species in these three areas and Kerala State were virtually identical; also, the temporal patterns here were more uniform compared to the top two (defined by eBird as those with the most checklist submissions) counties in Kerala (Fig. 2). This unequivocally shows that the species winters in the eastern part of the peninsula in addition to Kerala. The relative lack of uniformity in the two Kerala counties may be due to the inclusion of coastal checklists that did not cover potential BTFL habitats. It must be noted that if indeed the BTFL is a two-way (Autumn and Spring) passage migrant in peninsular India (Rasmussen and Anderton 2012b), the temporal pattern in Fig. 2 would be bimodal, with peaks around September–October and April–May, indicating southbound and northbound migration, respectively,

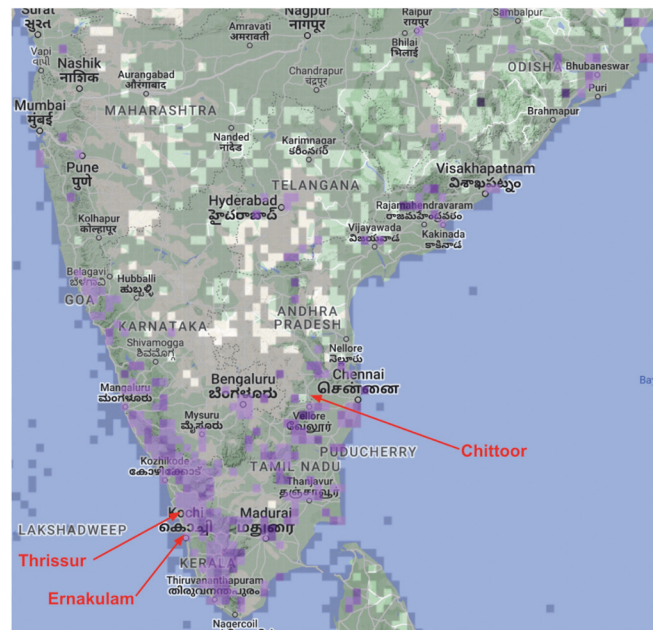


Fig. 1. eBird map of all records of BTFL from peninsular India (hills and plains) during winter months (November–February) for all years, all observers. Image provided by eBird (www.ebird.org) and created 08 April 2023. Arrows show three counties referred to in the text and in Fig. 2.

as for the Common Redstart *Phoenicurus phoenicurus* in Ladakh (see Fig. 1 in Kirwan et al. 2022). Instead, Fig. 2 shows all-winter occurrence that is expected of winter residents.

In our earlier paper on the Forest Wagtail (Kannan et al. 2018), we discussed many reasons for the mismatch between citizen science distributions and those reported in the literature. Some of those reasons may apply here as well. Before the popularisation of bird watching as a hobby, the hills of peninsular India may have been subjected to better coverage by scientists and birdwatchers relative to the plains. Kerala, where much of the southern Western Ghats lie, continues to enjoy better coverage by birders than other parts of the peninsula. Birds in the eastern plains may have been overlooked. Also, copycat error perpetuation (Remsen 2001; Kannan et al. 2018) may have played a role. Ironically, an accurate picture of the BTFL's wintering status in the Chennai area was reported as early as 1965 by Siromoney & Shaw (1966), who wrote that several individuals were seen in "six or seven points in the campus" (of Madras Christian College, Tambaram) from November through March. This seems to have been overlooked in subsequent works.

There could be one other partial explanation for the occurrence of the species in the plains. Some range expansions could have occurred with the creation of green spaces in urban and semi-urban areas. All three areas highlighted in Fig. 2 (top panel) have experienced significant tree planting and habitat enhancement campaigns in the past few decades (Rangaswami 1993; Nizhal 2023, Aahwahan Foundation 2023). The increased availability of these semi-natural habitats may have played a role in BTFL showing up in areas where it was absent in the past. Similarly, other bird species (like Indian Blue Robin *Larvivora brunnea* and Large-billed Leaf Warbler *Phylloscopus magnirostris*) have been reported from urban or semi-urban areas in the plains far from their purported "regular" wintering range. It is possible that these species were indeed overlooked here in the past, but some new

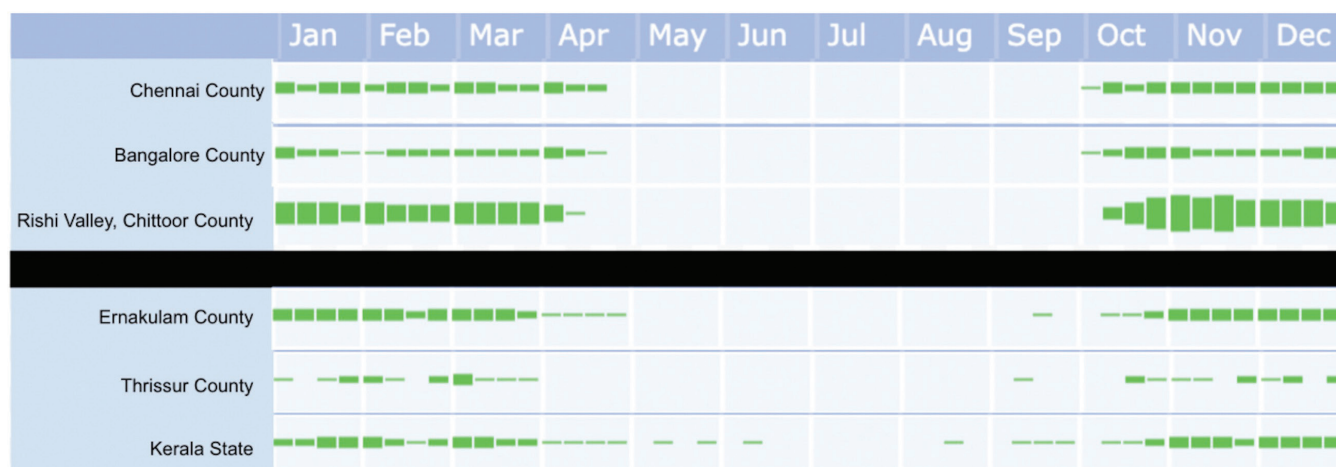


Fig. 2. Seasonal frequency bar charts for BTFL from eastern (top panel) and western (bottom panel) peninsular India, including a bar chart for the state of Kerala overall. The higher green bars show the periods when a species is least likely to be missed, while the narrower green bars show when the species is present (or sometimes present) but infrequently detected (eBird 2023). The rows are based on 31585, 103950, 2442, 59614, 38646, and 338543 submitted checklists (top to bottom). Composite image generated and compiled from eBird (www.ebird.org) and created 08 April 2023.

changes in range may also be happening, especially in the wake of disruptions caused by recent anthropogenic climate change (MacLean et al. 2008). As we indicated in the Forest Wagtail paper (Kannan et al. 2018), the true winter distribution of other Indian species, like the purported “mountain-top migrants” may also require review and revision. More analysis of the type presented in this, and our Forest Wagtail paper are required for Indian avifauna, especially since clear pictures of bird distributions are vital for conservation efforts (Remsen 2001).

Acknowledgments

V. Santharam and an anonymous reviewer made helpful comments that improved the paper.

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