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Report on a Disjunct Population of Red Spurfowl Galloperdix Spadicea in the Sandur Hills of Ballari District, Karnataka

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Abstract

The Red Spurfowl Galloperdix spadicea is an Indian endemic galliform bird that is generally associated with the Western Ghats and other well forested hill tracts of peninsular India. It has not previously been reported from the interior eastern plains of the Deccan Plateau in Karnataka. Pairs of Red Spurfowl were repeatedly recorded between 2008 and the present across several forested valleys and hill slopes of the Sandur hill range in Ballari district, an isolated and elevated block of dense deciduous forest situated within an otherwise open and semi-arid landscape, at elevations ranging between approximately 626 and 953 metres above mean sea level across four principal localities. The most accessible locality is reported in detail: the valley of the Medicinal Plants Conservation Area near Yashawantha Nagara in Sandur taluk, which lies close to a forest department guest house and can be visited with relative ease. Additional records were obtained from three further named localities within Sandur taluk, and from other, less accessible forested valleys across the wider hill range, including areas adjoining active and abandoned iron ore mining leases. In every documented instance, largely through camera traps, the birds were recorded in pairs, one male and one female, and were never recorded singly or in larger groups. The persistence of this species in Sandur, disjunct from its known core range, is attributed to the comparatively high elevation and dense vegetation of the hill range, which create habitat conditions resembling those of the Western Ghats. Systematic, range wide surveys and targeted conservation measures are recommended to safeguard this population from the ongoing pressure of iron ore mining.

Keywords: Red Spurfowl, Galloperdix Spadicea, Sandur Hills, Ballari District, Deccan Plateau, Camera Trap, Conservation

1 Introduction

The Red Spurfowl Galloperdix spadicea is a medium sized and secretive galliform bird that is endemic to peninsular India (S. Ali, et al., 1987) [1] (R. Grimmett, et al., 2011) [2]. It is found in dry and moist deciduous forest, scrub jungle and well wooded terrain, and is most reliably encountered along the Western Ghats and in hill and forest tracts with structurally similar vegetation. The species is classified as Least Concern by the International Union for Conservation of Nature (IUCN) (BirdLife International, 2026) [3]. It is not generally reported from the drier and more open interior plains of the Deccan Plateau, including the eastern plains of Karnataka, where dense forest cover is largely absent.

The Sandur hill range, in Ballari district, is a notable exception to this pattern of habitat availability. The range rises to approximately 900 metres above mean sea level (msl) and extends for approximately 48 kil-

ometres from T.B. Dam in Hospet taluk to Swamihalli in Sandur taluk. Pockets of dense deciduous forest, spring fed valleys and gorges are supported within the range, and these visibly depart from the surrounding scrub and agricultural landscape of the Deccan Plateau. Earlier avifaunal work in the area, notably preliminary ornithological notes on Sandur (K. Ghorpade, 1973) [4] , documented 166 bird species; the Red Spurfowl was not recorded in that account. Subsequent popular accounts of the birdlife of Sandur (S. Kottur, 2015) [5] (Deccan Herald News Service, 2015) [6] briefly noted the presence of the species, without dedicated documentation. A broader checklist of the birds of Karnataka (J. Praveen, et al., 2020) [7] provides further context for the distribution of bird species across the state.

Close association with the Sandur landscape has been maintained by the author since 1989, and sightings and camera trap images of the Red Spurfowl have been systematically documented from multiple locations across the hill range since 2008. This paper compiles those records, describes the habitat in which the species persists, and outlines the conservation concerns posed by continuing iron ore mining in the region.

2 Study Area

The Sandur hill range is located within Ballari (formerly Bellary) district, Karnataka, in the eastern and interior plains of the Deccan Plateau. This region is otherwise characterised by open scrub, cultivated land and rocky outcrops, with a hot and semi-arid climate. Within this setting, the Sandur hills form a spindle shaped and elevated block of thick deciduous forest. A comparatively higher altitude and localised rainfall are associated with the range, and these support vegetation and bird life that is more typical of the Western Ghats than of the surrounding Deccan interior. Decades of iron and manganese ore mining have also affected the range extensively, and large sections of forest, particularly on the eastern and southern flanks, have been fragmented and degraded as a result.

The valley of the Medicinal Plants Conservation Area, near Yashawantha Nagara in Sandur taluk, is the principal locality reported in detail in this paper. A forest department guest house adjoins this site, and the site is regularly visited by both the public and forest officials. For this reason, the site is the most consistently accessible location for sighting the species and is the reason it is specifically named in this paper. Red Spurfowl have also been recorded by the author at three further named localities within Sandur taluk, namely the Thimmappanagudi area, the Karthikeya Temple area and the area near Deogiri, in addition to other forested valleys and hill slopes across the wider Sandur range, including areas close to active and legacy mining sites. Coordinates and elevation for the four principal localities are provided in Table 1. The remaining, less accessible localities are deliberately not detailed in this paper, both because many of them are physically inaccessible and because greater precision could increase disturbance or exploitation risk in areas that are already under mining pressure.

Table 1: Major Localities of Red Spurfowl in Sandur Taluk

Locality	Coordinates	Elevation (msl)
Medicinal Plants Conservation Area	15°03'18.22"N, 76°31'07.00"E	626
Thimmappanagudi Area	15°07'52.41"N, 76°32'01.16"E	723
Karthikeya Temple Area	15°00'36.01"N, 76°33'42.28"E	930
Near Deogiri	15°00'12.55"N, 76°38'16.67"E	953

The four principal localities span an elevation range of approximately 626 to 953 msl, with the Medicinal Plants Conservation Area being both the lowest lying and the most accessible of the recorded sites.

Figure 1: Location Map of Sandur Taluk, Ballari District, Karnataka, and Major Localities of Red Spurfowl in the Sandur Hills

3 Methods

Field visits to the Sandur hill range were made opportunistically between 2008 and 2026, and these visits were supplemented by camera traps deployed at several forest locations across the range. Most of the photographic records of Red Spurfowl used in this documentation were obtained through camera traps rather than direct photography, and this reflects the skulking and predominantly terrestrial habits of the species. Locations and elevations were recorded using a handheld Global Positioning System (GPS) device (Garmin GPS 60) or smartphone GPS. Sightings and camera trap captures were logged with date, approximate location and group composition, that is, the number and sex of birds present, and these records are archived by the author for future reference. Representative direct-sighting images and a location map are presented in Figures 1 to 5 of this paper, and representative camera-trap records from two of the three additional named localities are presented in Figures 6 and 7; further camera-trap images will be appended in a subsequent revision.

4 Observations

Red Spurfowl were recorded repeatedly at the Medicinal Plants Conservation Area valley near Yashawantha Nagara from 2008 onward, and sightings and camera trap captures have continued to be obtained in subsequent years. Beyond this locality, the species was also documented at the Thimmappanagudi area, the Karthikeya Temple area and the area near Deogiri (Table 1), as well as in several other densely forested valleys and hill slopes distributed across the length of the Sandur range, including terrain adjoining mining leases that is difficult for casual observers to access. Representative direct sightings of the species at the Medicinal Plants Conservation Area are presented in Figures 2 to 3.

Figure 2: Red Spurfowl (Male) at the Medicinal Plants Conservation Area, Sandur Hills

Figure 3: Red Spurfowl (female) Foraging at the Medicinal Plants Conservation Area, Sandur Hills

Red Spurfowl were recorded as pairs, one male and one female together, in every instance documented by the author, and the species was never recorded as single birds or in groups of three or more. Stable pair bonds and the likely holding of discrete territories within suitable forest patches are suggested by this consistent pairing across years and locations, although systematic behavioural or breeding data have not yet been collected. A pair recorded together at the Medicinal Plants Conservation Area is shown in Figure 4.

Figure 4: A Pair of Red Spurfowl (Male and Female) Recorded Together at the Medicinal Plants Conservation Area

Camera-trap records confirming pairs of Red Spurfowl at two of the three additional named localities are presented in Figures 5 and 6.

Figure 5: Camera-Trap Record of a Pair of Red Spurfowl near Deogiri

Figure 6: Camera-Trap Record of Red Spurfowl at the Karthikeya Temple Area

No Red Spurfowl records are known to the author from the open scrub and agricultural plains surrounding the Sandur hills, nor more broadly from the rest of the eastern Deccan Plateau plains of Karnataka. Within this regional context, the elevated and densely vegetated interior of the Sandur range appears to be the only area in which the species is found. A summary of recorded localities is provided in Table 2.

Table 2: Summary of Red Spurfowl Records in the Sandur Hills

Habitat Context	Number of Localities	Group Composition	Documentation Method
Publicly accessible valley (Medicinal Plants Conservation Area)	1	Pairs (1 male, 1 female)	Direct sighting
Named forested localities across Sandur taluk (Thimmappanagudi, Karthikeya Temple, Near Deogiri)	3	Pairs (1 male, 1 female)	Primarily camera trap
Other forested valleys and areas adjoining mining leases	Multiple, largely inaccessible	Pairs (1 male, 1 female)	Camera trap

5. Discussion

The Red Spurfowl is not typically associated with the interior Deccan Plateau, and a locally and regionally significant record is represented by its documented and repeated presence in Sandur, which has been sustained across nearly two decades of observation. Habitat is considered the most plausible explanation: denser and more structurally complex deciduous forest is supported by the comparatively high elevation of the Sandur range and the consequently higher rainfall and humidity, than is available anywhere else in the surrounding plains, and habitat conditions that are elsewhere characteristic of the Western Ghats are thereby recreated, in isolation. This is consistent with the elevation range recorded across the four principal localities, from 626 msl at the Medicinal Plants Conservation Area to 953 msl near Deogiri (Table 1), which suggests that suitable habitat for the species is concentrated in the higher and more densely vegetated portions of the Sandur hill range. This pattern is also consistent with other observations from the same landscape, in which species with a primarily Western Ghats affinity, including the Yellow throated Bulbul Pycnonotus xantholaemus and the Orange headed Thrush Geokichla citrina, have similarly been noted within the forest patches of Sandur (S. Kottur, 2015) [5].

Further study is merited by the consistent recording of birds only in pairs across multiple sites and years, including systematic surveys to establish territory size, breeding phenology and population density, and to determine whether elevation and vegetation density are correlated with occupancy across the four principal localities and the wider hill range. Camera trapping has proved to be a valuable tool for documenting this otherwise elusive species and it is recommended that this method be expanded into a more structured and grid based survey across the hill range, so that a defensible population estimate can be generated.

6 Conservation Implications

Decades of iron and manganese ore extraction have substantially altered the Sandur hill range, and a direct threat is posed by continued or renewed mining activity to the remaining forest patches that support the Red Spurfowl and other Western Ghats affiliated fauna documented in the area. Because much of the population appears to persist in less accessible terrain, including areas near active mining leases, the true extent of suitable habitat and population size cannot be assessed from the four principal localities that are reported in detail in this paper.

The following measures are recommended: systematic and range wide surveys of the Sandur hills, so that the full distribution of the Red Spurfowl and associated forest dependent species can be mapped; expanded camera trap monitoring, so that robust occupancy and density estimates can be generated across the elevation gradient identified in this paper; protection of remaining unmined forest valleys and gorges, particularly those that have been identified as regularly used habitat; engagement with the Karnataka Forest Department and mining authorities, so that these records can be factored into environmental clearances and habitat management planning; and continued long term monitoring, so that population trends can be tracked as mining and restoration activity in the region evolve.

7 Conclusion

A disjunct and previously undocumented population of the Red Spurfowl has been demonstrated to persist in the Sandur hill range of Ballari district, in a landscape where the species is otherwise absent from the surrounding Deccan Plateau plains. Elevated terrain, ranging between approximately 626 and 953 msl across four principal localities, together with dense forest cover, is considered to be the primary factor that supports this population, and continued monitoring and habitat protection are considered necessary, given the ongoing pressure of mining in the region. It is intended that this documentation will serve as a baseline for future systematic research and conservation planning in the Sandur hills. There is also a need to correlated the link between Western Ghats, Eastern Ghats and Sandur hills

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