Grey Junglefowl *Gallus sonneratii* (Galliformes: Phasianidae) in Kalakad-Mundanthurai Tiger Reserve, Tamil Nadu, India

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Grey Junglefowl *Gallus sonneratii* is endemic to southern peninsular India and is listed as Least Concern (Birdlife International 2009) and under Schedule II by CITES. Grey or Sonnerat’s Junglefowl (GJ) is distributed throughout southern peninsular India (Grimmett et al. 1998). Very few studies have been conducted on the Grey Junglefowl and these mainly pertain to abundance (Ramesh 1994; Sathyakumar 2006; Sathyarayaraya 2007) and habitat use (Tata & Gautam 1993; Zacharias 1997; Subramanian et al. 2002; Sathyarayaraya 2002; Satyakumar 2006). Most of the populations of GJ within protected areas in India are not monitored. Sathyarayaraya (2007) has reported the need for research on the current status and distribution and habitat requirements of this species. GJ has a declining trend in population due to hunting for meat, egg depredation by local communities (Gubbi 2006), poaching and habitat degradation (Sathyarayaraya 2007). This study was undertaken to estimate the abundance of GJ in the Kalakad-Mundanthurai Tiger Reserve (K-MTR) in the southern Western Ghats.

**Study Area:** Kalakad-Mundanthurai Tiger Reserve (K-MTR, 895km², 8°25’–8°53’N & 77°10’–77°35’E), forms the catchment area for 14 rivers and streams. The vegetation types range from scrub montane to wet evergreen, all within an elevational range of 40 to 1866 m with an annual rainfall of 2000mm (Vasudevan et al. 2001). The maximum temperatures at the site range from 17 to 28 °C and the minimum temperature from 14 to 19 °C. The period from October to January is usually cold and misty (Ganesh & Davidar 1999). This reserve has many endemic, threatened fauna and flora (Johnsingh 2001).

**Methods:** Field sampling was carried out in the months of September 2007 to November 2007. During this period permanent transects were established across different vegetation types. Transects were established in Kannikatti (3), Sengaltheri (2), Mundanthurai (2), Kakachi (1), Kodamadi (2) and Ootthu (1). Each transect was surveyed thrice by two observers between 0600–0900 hr. Each transect differed in length, the average transect length being 1.8km. Group size, sex, sighting distance and angle every time the species was detected were recorded. Opportunistic encounters during the study were only used to calculate the sex ratio of the GJ. To estimate the density of the species we used Distance 5.0. Release 2 (Thomas et al. 2006).

**Results and Discussion:** A total of 59.7km transect was surveyed during our fieldwork in K-MTR and 97 individuals were recorded on all the transects. The calculated density of the GJ was 25.45±3.4 km². The average group size was 1.5±0.09, the encounter rate of GJ was 1.07km⁻¹ and the sex ratio of GJ in K-MTR was 1:1.4.

Probability of sighting varied according to the habitats. Sathyakumar (2006) found the GJ at 34.42km² only in Mundanthurai plateau and an overall mean density 19.78 individual km². In Theni Forest Division the density reported was 37.03km² (Sathyarayaraya 2007).

GJ prefer moderate canopy cover, high scrub cover
Table 1. Density and Group Size of Grey Junglefowl in K-MTR.

<table>
<thead>
<tr>
<th>N</th>
<th>n/L</th>
<th>D</th>
<th>CV%</th>
<th>ESW</th>
<th>95%</th>
<th>SE</th>
<th>Grsz</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>97</td>
<td>0.84</td>
<td>25.5</td>
<td>13.5</td>
<td>30.29±3.05</td>
<td>19.49–33.23</td>
<td>9.365739</td>
<td>1.5±0.09</td>
<td>0.7</td>
</tr>
</tbody>
</table>

n - Number of individuals; n/L - encounter rate; D - density; CV - percentage of covariance; df - degrees of freedom; 95% confidence intervals on; SE - standard error; Grsz - Group size; p - probability value

and mixed deciduous forest to scrub forest (Nirmala & Vijayan 2002). According to the present study the group size of GJ was 1.5 to 1.9 which is comparable with earlier observations in K-MTR (1.0–1.6 km²; Sathyakumar 2006). GJ is not gregarious like the Red Junglefowl and the maximum group size sighted was three individuals during our field work. Encounter rate was 1.07km² which was slightly higher than (0.8km²) Sathyakumar (2006) study.

REFERENCES


