



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

K. Muthamizh Selvan<sup>1</sup> & N. Sridharan<sup>2</sup>

Wildlife Institute of India, Chandrabani, Post box No 18, Dehradun, Uttarakhand 248001, India  
Email: <sup>1</sup>km.selvan6@gmail.com (corresponding author), <sup>2</sup>sridharanavc@gmail.com

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; Sathyanarayana 2007) and habitat use (Tata & Gautam 1993; Zacharias 1997; Subramanian et al. 2002; Sathyanarayana 2002; Sathyakumar 2006). Most of the populations of GJ within protected areas in India are not monitored. Sathyanarayana (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 hunt-

ing for meat, egg depredation by local communities (Gubbi 2006), poaching and habitat degradation (Sathyanarayana 2007). This study was undertaken to estimate the abundance of GJ in the Kalakad-Mundandurai Tiger Reserve (K-MTR) in the southern Western Ghats.

**Study Area:** Kalakad-Mundandurai Tiger Reserve (K-MTR, 895km<sup>2</sup>, 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 Oothu (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 km<sup>-2</sup>. The average group size was 1.5±0.09, the encounter rate of GJ was 1.07km<sup>-1</sup> 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 34.42km<sup>-2</sup> only in Mundanthurai plateau and an overall mean density 19.78 individual km<sup>-2</sup>. In Theni Forest Division the density reported was 37.03km<sup>-2</sup> (Sathyanarayana 2007).

GJ prefer moderate canopy cover, high scrub cover

Date of publication (online): 26 January 2012  
Date of publication (print): 26 January 2012  
ISSN 0974-7907 (online) | 0974-7893 (print)

**Editor:** Rahul Kaul

**Manuscript details:**

Ms # o2538  
Received 05 August 2010  
Final received 29 June 2011  
Finally accepted 18 November 2011

**Citation:** Selvan, K.M. & N. Sridharan (2012). Grey Junglefowl *Gallus Sonneratii* (Galliformes: Phasianidae) in Kalakad-Mundanthurai Tiger Reserve, Tamil Nadu, India. *Journal of Threatened Taxa* 4(1): 2328–2329.

**Copyright:** © K. Muthamizh Selvan & N. Sridharan 2012. Creative Commons Attribution 3.0 Unported License. JoTT allows unrestricted use of this article in any medium for non-profit purposes, reproduction and distribution by providing adequate credit to the authors and the source of publication.

**Acknowledgements:** We would like to thank The Director, Dean and Research co-ordinator of Wildlife Institute of India, Directorate of Project tiger, Team of all India tiger monitoring programme, Tamilnadu forest department for logical support and permission and also like to thank Dr. Saravanan, Mr. Sajjan John for their helps during manuscript preparations. Special thanks to anonymous reviewers.

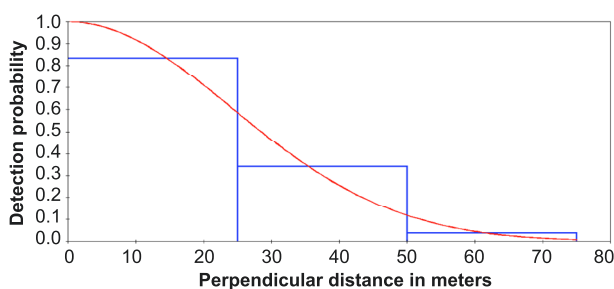
OPEN ACCESS | FREE DOWNLOAD



**Table 1. Density and Group Size of Grey Junglefowl in K-MTR.**

N	n/L	D	CV%	ESW	95%	SE	Grsz	p
97	0.84	25.5	13.5	30.29±3.05	19.49–33.23	9.365739	1.5±0.09	0.7

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

**Figure 1. Detection probability for Grey Junglefowl**

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 km<sup>2</sup>; 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 1.07km<sup>2</sup> which was slightly higher than (0.8km<sup>2</sup>) Sathyakumar (2006) study.

## REFERENCES

- Ganesh, T. & P. Davidar (1999).** Fruit biomass and relative abundance of frugivores in a rain forest of southern Western Ghats, India. *Journal of Tropical Ecology* 15(4): 399–413.
- Grimmett, R., C. Inskipp & T. Inskipp (1998).** *Birds of Indian Subcontinent*. Oxford University Press, 888pp
- Birdlife International (2009).** IUCN Red List of Threatened Species. Version 2009.1. <<http://www.iucnredlist.org/>> Accessed on 5 September 2009.
- Johnsingh, A.J.T. (2001).** The Kalakad-Mundandurai Tiger Reserve: a global heritage of biological diversity. *Current Science* 80: 378–388.
- Vasudevan, K., A. Kumar & R. Chellam (2001).** Structure

and composition of rainforest floor amphibian communities in Kalakad-Mundanthurai Tiger Reserve. *Current Science* 80(3): 406–412.

**Nirmala, S.T. & L. Vijayan (2002).** Resource utilization by the Grey Junglefowl *Gallus sonneratii* in Anaikatty hills, Coimbatore. Proceedings of the National Symposium on Galliformes, A.V.C. College, 40–50pp.

**Gubbi, S. (2006).** “Tiger habitats and integrated conservation and development projects: a case study from Periyar Tiger Reserve, India” submitted in partial fulfilment of the requirement for the degree of Master of Science in Conservation Biology Durrell Institute for Conservation and Ecology University of Kent, 97pp.

**Sathyakumar, S. (2006).** Habitat use by Grey Junglefowl *Gallus sonneratii* Temminck at Mundanthurai Plateau, Tamil nadu. *Journal of the Bombay Natural History Society* 103 (1): 57–61.

**Sathyanarayana, M.C. (2002).** Density of Grey Junglefowl, *Gallus sonneratii* at Gudalur range in Theni forest division, Western Ghats, India. 4th International Galliformes Symposium Chengdu, Sichuan China, 14–21.

**Sathyanarayana, M.C. (2007).** Review of research on Pheasants in southern India. *Galliformes of India. Envis* 10(1): 105–108.

**Subramanian, C., M.C. Sathyanarayana & K. Kamarajan (2002).** Habitat utilization by Grey Junglefowl (*Gallus sonneratii*) in Theni Forest Division, Megamalai, Tamilnadu. Proceedings of the National Symposium on Galliformes, A.V.C college, 28–36.

**Tata, L.R.R. & P. Gautam (1993).** Habitat utilization by Grey Junglefowl in Bori Wildlife Sanctuary, India. Abstract. World Pheasant Association Journal 17 and 18: 91. Temminck (1813) Pigeon et Gall. 2: 246

**Thomas, L., J.L. Laake, S. Strindberg, F.F.C. Marques, S.T. Buckland & D.L. Borchers (2006).** Distance 5. Release 2. Research Unit for Wildlife Population Assessment, University of St. Andrews.

**Zacharias, V.J. (1997).** Status of Grey Jungle fowl in Periyar Tiger Reserve. Kerala. *Tragopan* 7: 13–14.

