

A preliminary survey of House Sparrow (*Passer domesticus*) in Ramakrishna Beach Road, Vishakhapatnam (Vizag), Andhra Pradesh-

B. Laxmi Narayana^{1*}, V. Vasudeva Rao¹, M. Sandeep², G. Surender
and A V L N Ramaligeswara Rao¹

All India Network Project On Agricultural Ornithology, Prof. Jayashankar Telangana State
Agricultural University, Rajendera Nagar, Hyderabad, India-5000 30¹

Nehru Zoological Park, Hyderabad, Telangana, India²

*E-mail address: narayana.laxmi8@gmail.com

ABSTRACT

We studied the population records of House Sparrow *Passer domesticus* 16th to 20th December 2011 during winter in Ramakrishna Beach Road Vishakhapatnam town, Andhra Pradesh. The ecological density of House Sparrow was investigated using fixed width transects. A total of 189 House sparrows were recorded. The present study shows that a notable population of House Sparrow in Beach Road.

Key words: House sparrow; Abundance; Fixed width transects; Beach Road, Vishakhapatnam

1. INTRODUCTION

Sparrows are found all over the world, almost everywhere that humans live. But strangely, sparrow populations have been in decline in many parts of the world, for reasons that are still unclear, although hotly debated! In India, sparrows used to be found in great abundance in all our cities, towns and villages (<http://www.citizensparrow.in>). Most commonly used indicators for ecological monitoring are birds, as they are sensitive to even small environmental changes and thus useful models for studying a variety of environmental problems (Newton, 1995). The House Sparrow *Passer domesticus* is one such species, which is known to co-occur with humans from historic times, and thus serves as a good indicator of the ecological quality (Khera *et al.*, 2009). The House Sparrow is highly adaptable to urban, suburban and agricultural habitats (Ali and Ripley, 1983). In India, the distribution of House Sparrow is widespread. But recent studies show that there is dramatic decline of the species in many parts of the world. Since mid 1970's 47% of rural and 60% of the urban and sub urban population has declined in U.K. (Robinson *et al.*, 2005). As a result the species is included in the Red list of species of Conservation Concern (Gregory *et al.*, 2003). The population decline of this species is also reported throughout North-Western Europe (Prowse, 2002, Mulsow, 2005, 2006). Hence, House Sparrow is now listed in a Species of European Conservation Concern (SEPC category 3; Bird life international, 2006) (Shaw *et al.*, 2008). Though quite a few hypotheses are put forward to enlighten the declination of the species viz., reduction in food supply (Newton, 2004), increasing developmental activities (Summer-smith, 2003), reduced availability of nest sites (Anderson, 2006), and

electromagnetic radiation (Balmori *et al.*, 2007), but there is no strong evidence to support any of these. Decline in sparrow population also reported from India (Daniels, 2008), but there is no authentic historical data on the species, to compare the population trend (Dhanya and Azeez, 2010). However, Nath *et al.*, (2012), Laxmi Narayana (2011), Dhanya and Azeez (2010), Khera *et al.*, (2009) Rajashekhar and Venkatesha (2008) made an effort to record the population of House Sparrow in Yellampet, Aaraku, Andhra Pradesh and Delhi and Bangalore, additional Studies on the response of House Sparrows to artificial nest (Bhattacharya *et al.*, 2011) from Kolkata. Recently on-line House sparrow population data base developed (<http://www.citizensparrow.in>), excluding that no study has done on the population of House Sparrow from India.

2. MATERIALS AND METHODS

The Rama Krishna Mision Beach (RK Beach)17° 42' 48.68"N 83° 19' 18.22"E is one of the best known tourist spots in Vishakhapatnam (Vizag) (Fig 1), attracting a large number of visitors. Swimming, sun bathing and beach volleyball are popular activities on the beach. An aquarium, the Kali temple, Visakha Museum, road side restaurants offering seafood is other attractions.

The House Sparrow survey was carried out in winter season 16th to 20th December 2011. A total of 20 transects were laid of 50m each (Bibbly *et al.*, 1998) in Ramakrishna Beach Road Vishakhapatnam (Figure 1 we given each transect length 1 kilometer with 50m fixed length transects 50X20=1000m), and recorded information for approximately 5 m distance on either side of the observer (Dhanya and Azeez, 2010, Laxmi Narayana, 2011). The survey was conducted for 3.30 hrs between 0600 and 0930 hrs, and collected information specific to the species as well as to the habitat. The number of individuals and the number of nests were recorded during the survey.

3. OBSERVATIONS AND CONCLUSION

A total of 189 House sparrows in Ramakrishna Beach Road we recorded of which during 1st day 52 highest individuals were recorded, followed by 45, 42, and 50 in 2nd, 3rd and 4th day during 16th to 20th December 2012 (Fig 2, 3). The maximum present abundance found to be 27.51% in the 1st day and minimum 22.22% in the 3rd day (Fig 4). Apart from that most of the sparrows are associated with beach side shops or huts and counted 23 active nests during the population counts of sparrows.

The study shows that the high abundance of House Sparrows in Ramakrishna Beach Road, Vishakhapatnam town. However previous studies results showed agricultural area provides plenty of food in the form of food grains and insects (Balmori and Hallberg, 2007). The main reason for abundance of House sparrow in the beach area mainly on account of availability food resource by the way of fallen grains and other food stuffs present in shops. In literature evidence indicated that declines vary both geographically and in relation to several anthropogenic factors according to habitat. Raven and Noble (2006) showed that declines are occurring in most urbanised parts of England, whereas in Scotland and Wales, populations are increasing. Decline in sparrow population also reported from India (Daniels, 2008) and related studies was done Dhanya and Azeez (2010), Khera *et al.*, (2009) Rajashekhar and Venkatesha (2008), Laxmi Narayana (2011), Bhattacharya (2011), Nath *et*

al., 2012. Hence the present study shows that the notable population of House Sparrow in a Beach Road, Vishakhapatnam from Andhra Pradesh, reveals that if food and shelter are in plenty. Therefore long term studies are needed to understand the variations in density of sparrows and nest sites. The monitoring of sparrow population can be helpful to understand the change in surrounding environment and their composition population can thrive successfully.

5. ACKNOWLEDGMENTS

We would like acknowledge Mr. Anukul Nath (Aaranyak, a society for biodiversity conservation in north east India, Assam) for providing literature and Mr. K. Swamy, V. Hanumath Rao and B. Baleshwar Reddy for valuable suggestions during the manuscript preparation.



Figure1. Study area map showing transects as for the methodology of the Ramakrishna Beach Road, Vishakhapatnam.

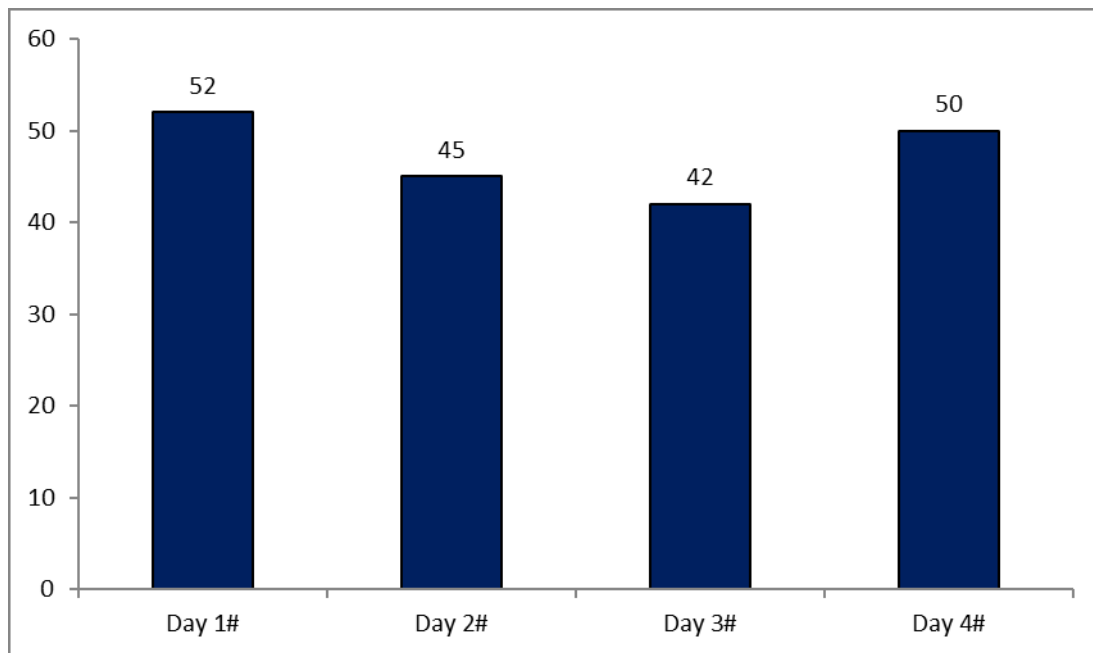


Figure 2. Variations in the abundance of House Sparrow in different days at Ramakrishna Beach Road, Vishakhapatnam during December 2011.

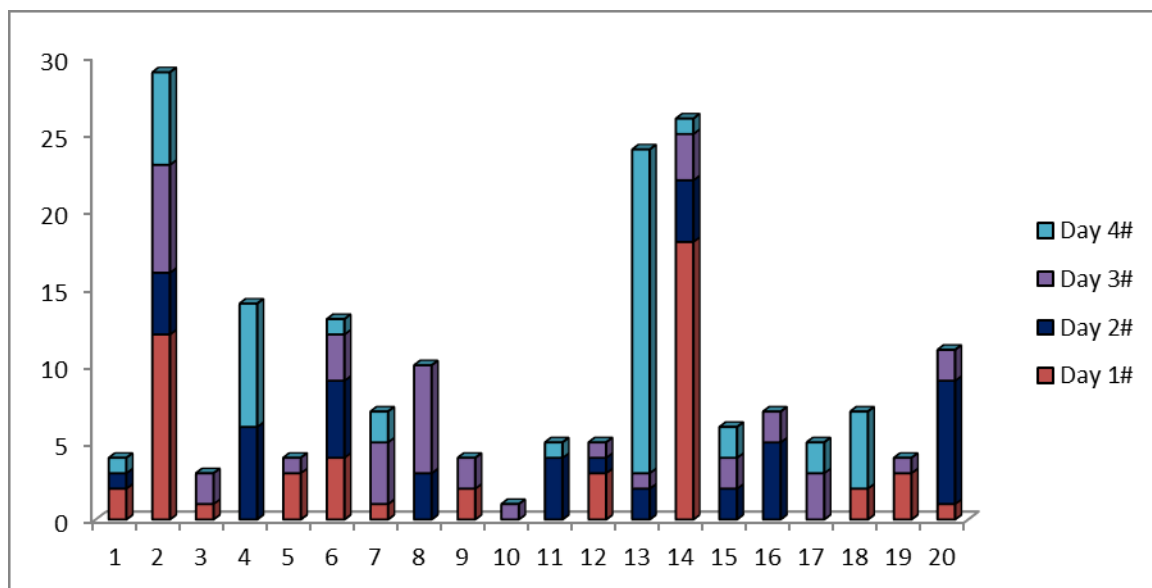


Figure 3. Variations in the abundance of House Sparrow in different transects at Ramakrishna Beach Road, Vishakhapatnam during December 2011.

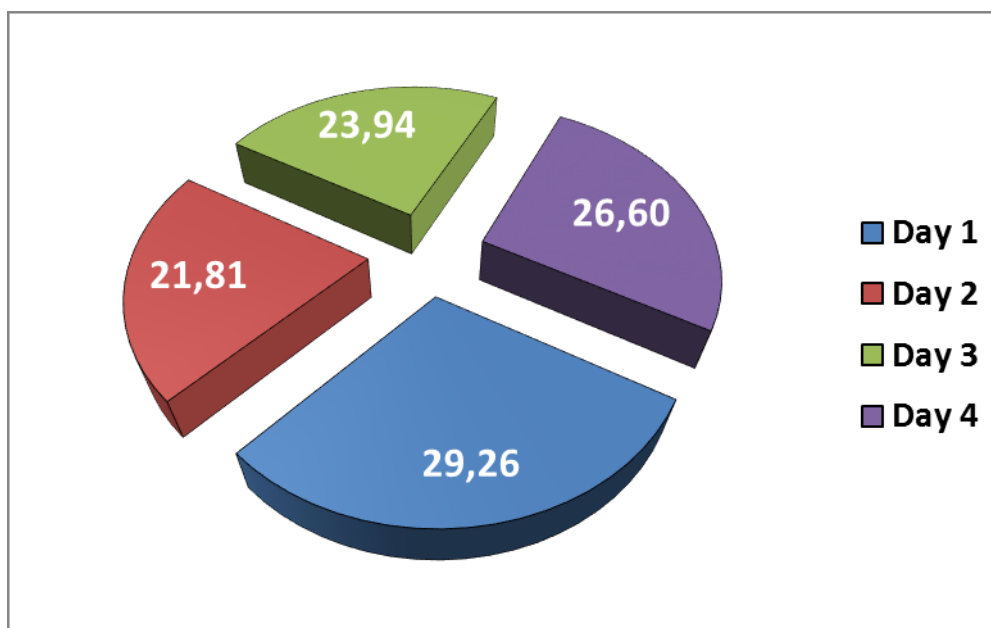


Figure 4. Percent abundance of House Sparrow in different days of Ramakrishna Beach Road, Vishakhapatnam during December 2011.

6. REFERENCES

- [1] Ali, S., Ripley, S. D. (1983). Handbook of the Birds of India and Pakistan (comp. Edn), Oxford University Press, New Delhi. 669–673.
- [2] Anderson, T.R. (2006). Biology of the ubiquitous House Sparrow. Oxford University Press, Oxford.
- [3] Balmori, A., Hallberg, O. (2007). The urban decline of the House Sparrow (*Passer domesticus*): a possible link with electromagnetic radiation. *Electromagnetic Biology and Medicine* 26:141-151.
- [4] Bird life International (2008). *Passer domesticus*. In: IUCN (2008). (2008) IUCN Red list of threatened species. < www.iucnredlist.org>.
- [5] Bhattacharya., R, Roy., R, Goswami C. (2011). Studies on the response of House Sparrows to artificial nest. *International Journal of Environmental Sciences*.1574.1581.
- [6] Gregory, R.D., Eaton, M.A., Noble, D.G., Robinson, G., Parsons, M., Baker, H., Austin, <http://www.citizensparrow.in>
- [7] Kheera, N., Das, A., Srivastava, S., & Jain, S. (2009). Habitat-wise distribution of the House Sparrow (*Passer domesticus*) in Delhi, India. *Urban Ecosystem*. 13:147-153.
- [8] Laxmi Narayana. B. (2011). Population of House Sparrow (*Passer domesticus*) in Yellampet, Nizamabad, Andhra Pradesh, India. *Newsletter for Birdwatchers*. 51(2). pp 21-22.

-
- [9] Mulsow, R. (2005). Hamburg. In: Kelcey JG, Rheinwald G (eds). *Birds in European cities. Ginster, Germany*, pp 127–152.
- [10] Mulsow, R. (2006). The birdlife of Hamburg. *Hamburger Avifauna Beitrage Special Edition IOC Hamburg 2006*, pp 45–76.
- [11] Newton, I. (1995). The contribution of some recent research on birds to ecological understanding. *Journal of Animal Ecology*. 64:675–696
- [12] Newton, I. (2004). The recent declines of farmland bird population in Britain: an appraisal of causal factors and conservation factors. *Ibis* 146:579–600.
- [13] Prowse, A. (2002). The urban decline of the house sparrow. *British Birds* 95:143–146.
- [14] Raven, M. J. & Noble, D.G. (2006). The breeding bird survey 2005. Available from: <http://www.bto.org/bbs/results/bbsreport.htm>
- [15] Rajashekhar, S. & Venkatesha, M.G. (2008). Occurrence of House Sparrow, passer domesticus indicus in and around Bangalore. *Current Science*. 94:446–449
- [16] Robinson, R.A., Siriwardena, G.M. & Crick, H.Q.P. (2005). Size and trends of the House Sparrow *Passer domesticus* population in Great Britain. *Ibis*. 147:552–562.
- [17] Shaw, L. M., Chamberlain, D. & Evans, M. (2008). The House Sparrow (*Passer domesticus*) in urban areas: reviewing a possible link between post-decline distribution and human socioeconomic status. *Journal of Ornithology*. 149: 293-299.
- [18] Summers-Smith J.D. (2003). The decline of the House Sparrow: a review. *British Birds* 96:439–446.
- [19] Nath., A, Kalaimani, A., Debahutee, R. (2012). A note on House Sparrows of Thengumahada, Nilgiris. *Newsletter for Birdwatchers*. (4): 52.