

## Wintering Home Range of the Common Stonechat Bird, *Saxicola torquata*

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The diverse taxa of family Muscicapidae in Passeriformes has largest representatives in India. Common Stonechat or Siberian Chat has four distinct subspecies in the entire Indian Subcontinent, viz. *Saxicola torquata maura*, *S. t. indica*, *S. t. przewalskii* and *S. t. stejnegeri* (Ali & Ripley, 1999). Like most of birds the Common Stonechat shows a significant degree of variation in plumage across its distributional range as well as gender. Basically, *S. torquata* is distributed throughout Asia, Europe, Russia and Africa. They spend their wintering above 40° from equator horizontally. Territoriality it is quite important aspect in life of birds in case of migratory ones; but it may limit for breeding or their stay at selected stations. It affects survival and productivity of next generation (Brown, 1969; Sergio & Newton, 2003). Certain bird species with its limited population in particular and complex habitat for most of the time that tend to represent lot. Population of many species regulates the quality of respective ecosystem. Similarly, it is also beneficiary to document the co-existence, association and daily cycles in particular area. The fundamental object of this study is to elaborate the home range territory of Common Stonechat *Saxicola torquata* during winter season in some selected sites of Solapur, Maharashtra, India.

### Methodology

To study the home range of *S. torquata* authors selected three distinct study sites in and around Solapur. They composed with shrub land, open sparse as well as grassland accompany with human settlements in its nearby five kilometer radius. Weekly observations from single point carried out from morning 7.00 AM to 9.00 AM and evening 4.30 PM to 6.30 PM. Initially, land pattern, distances and land marks were drawn. During the observation time positions of each individual were plotted. For clear observation authors used a pair of binocular (Olympus 10x50mm) and photographed for documentation with proper identification of sex by digital camera (Canon SX50). Off field work were carried out by counting individuals, distances, area and Kernel distribution map (Seaman & Powell, 1996) with using statistical program PAST (Hammer et al., 2001). Due to unaffordable circumstances regarding economic as well as legal permission for

capturing species we avoided satellite telemetry and undertaken the manual method which is totally based on observational reading to elucidate the home range.

Three different sites in which first is Degaon situated on Mangalwedha road of North Solapur tehsil (17°40'09"N 75°52'24"E). A scrubland which was used to grow fodder for livestock but in last many years it kept as unused. Presently it turned into different look. *Acacia arabica*, *Acacia sp.*, *Calotropus Sp.*, richly took their succession. However, fodder management and cultivation of Sugarcane, Pulses, Wheat and Jawar harvested seasonally at neighboring. Same agricultural practices carried in second site Hiraj also (17°42'21"N 75°49'14"E). At third site i.e. Kumbhari (17°37'42"N 75°48'19"E) some variables are different than other two. It is open scrubland. Heavy grazing occurs at optimum height of grass. This study was carried out during December 2015 to March 2016. During this timeline mean temperature and humidity were 32°C and 65% respectively.

### Results and Discussion

Authors plotted 90 points which highly used, occupied and preferred by chat during entire season in all three sites. Highest land covers for home were measured at Hiraj was 41713.77 sq mt., Degaon was 33291.24 sq mt. and Kumbhari was 8902.36 sq mt. Though, Kumbhari site has open, lowest density of plants and grasses. On the other hand grassland was highly preferred and used widely. Importantly, Degaon scrubl and range represents comparatively more individuals i.e. 4 Males 3 Females, while less in grassland and open land, 2 Males 1 Female at Hiraj and 2 Males 2 Females at Kumbhari. Perimeter of mean total area was ( ), (Range), CV = 81.41% (n=5). The area of home range (Range), CV = 61.58% (n=5).

*S. torquata* is one of the diverse and largely distributed species on earth. It has been studied for long time under various aspect of its natural history. It has also cleared numerous ecological as well as genetic concepts (Ali, 1996; Wink, 2002; Wittman, 1995). Authors have not referred or attempted the practical application of this type of manual experiments before. But similar works with other flycatchers were studied. These preliminary efforts can give the

initial ideas about home of Siberian Chat. Though they spend sort of season time in central India. They spread and sumarily occupy specific areas of lands exactly those where identified, observed continuously and studied.

#### Conclusion

Grassland has the largest coverage of Common Chat *Saxicola torquata*. It occupies maximum territory in well grass covered land rather than open and scrubland. Perhaps microhabitat, number of individuals and their home range are interrelated closely.

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## World's Most Populated Megacities Delhi and Mumbai in top four

Delhi, which was not even among the world's top ten urban sprawls by population in 1990, is already the second largest behind Tokyo and will continue to retain that position till 2025, according to a UN projection. Mumbai, which was at No. 5 in 1990, has climbed to the fourth spot and will be No. 3 in the next 13 years.

The projections in the UN's recent publication, *State of The World's Cities 2012-13*, suggest that the Delhi urban agglomeration will have a population of 28.6 million by 2025, still well behind Tokyo's 37.1 million. Mumbai will, in the meantime, have reached a population of 25.8 million. While the report does not indicate exactly which areas are included in these urban agglomerations, comparison of the numbers given for 2010 with 2011 census figures indicates that the relevant areas are Greater Mumbai; and Delhi plus Gurgaon, Ghaziabad, Noida and Faridabad.

The fastest growing of the mega cities, according to the report, will be Dhaka. Dhaka, which was ranked No. 23 in 1990 and was at No. 9 in 2010, is projected to be the fifth largest urban area in the world by 2025.

Another city in India's neighbourhood, Karachi, has also been rapidly climbing up the rankings, from No. 21 in 1990 to No. 10 in 2010 and No. 9 in 2025.

Kolkata, which was ranked No. 7 in 1990, has been more or less holding on to its position, having dropped just one rank till 2010 and is projected to hold on to that position, in 2025. New York and Mexico City, which were the two biggest urban agglomerations two decades ago, are projected to drop to the bottom half of the top 10 list in a little more than a decade from now.

Tokyo will be virtually unchanged from its current size with zero population growth between 2020 and 2025, while Sao Paulo, Mexico City and New York will all see single digit percentage increases in population between 2010 and 2025.

Delhi and Mumbai are both projected to see populations increasing by 29% over the same period, but even this is a significant drop from the rates at which they have grown since 1990. Dhaka, however, is likely to see its population grow by 43% over the 15-year period, a rate that will be matched by Karachi, while Lagos in Nigeria will see a 49% jump in population by 2025, if the projections come true.

"There is a need to address the ribbon development happening around big cities in developing countries, particularly in India. A city or urban area has to have adequate infrastructure to make them cities of prosperity," said Eduardo Lopez Moreno, head of City Monitoring Branch of UN Human Settlements Programme.