Research Article

Enumeration of IUCN categorization of plants from Sangamner tehsil of Ahmednagar district

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Abstract

The notable forest of Sangamner Tehsil is confined mainly to the mountainous region. Forest is mainly of moist deciduous with some evergreen elements. Some afforested area is developed in recent years. Sangamner Tehsil includes 172 villages out of that 92 villages come under the forest department. The total geographical area of Sangamner Tehsil is 1,63,086 hector Out of that 29,218.463 hector area is under forest cover. The vegetation in this area is generally predominantly deciduous in some area where moist deciduous forest is seen along with semi-evergreen patches. Present study categorize the 444 species of medicinal plants into various categories namely common, common and abundant, endemic, endangered, Low risk, rare; etc. which suggested that the area should be conserved.
Keywords: afforested, deciduous, endemic, endangered, rare.

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INTRODUCTION

Floristic composition and ecological studies of any region is very much essential and important. Flora is a systematic enumeration of plant species occurring in a given region. It is totally botanical aspect but have ecological value. Flora may cover any suitable area from a small patch of forest to a tehsil, city, district, state, country or even a continent (Naik, 1988). Flora constitutes the sum total of different types and kinds of plants, whereas the vegetation is represented by the total effect produced by abundance or scarcity or even diversity of the plant life (Mahajan, 2001). Study of flora is essential for recording the number of plant species and can be compared with earlier records to know the change in floral composition if any. The trees and varying assemblage of herbs and shrubs forms a forest ecosystem. Study of floristic composition is essential because of an increasing demand for forest products. Various human activities are responsible for reducing the forest cover of our country. The species composition and plant biomass changes due to grazing by animals (Dagar, 1987). Forest plays an important role in balancing the biosphere-atmosphere energy flow. Forests have been treated as, a common property resources and therefore freely accessible to all, especially those inhabiting the region and for commercial purposes. Floristic is chiefly a matter of quality and vegetation is a matter of quantity. Ecological methods based on floristic composition are more useful for small-scale (large-area) studies and for habitat description (Goldsmith *et al*, 1992). The present study on the floristic composition was undertaken to explore this area, with a view to bring out a comprehensive floristic list. The data thus generated would be a contribution to our current knowledge of the flora of Maharashtra state.

Study Area

Sangamner is located in the northern part of the Ahmednagar district of Maharashtra State. Sangamnertahsil lies between 180 36' N and 1901' N latitude and between 740 1' W and 740 56' W longitude. Sangamner town is located on the confluence streams of Pravara and Mhalungi rivers, which is at a distance of 150km from Pune, on Pune-Nasik National Highway No. NH-50. The area is drained by the Pravarariver, which originates in the hilly region of Western Ghats at

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Ratangarh. Geologically, basalts underlay the Pravara basin.

Climate

Climate of Sangamner shows three seasons i.e. summer from mid Feburary to end of May, Monsoon form first week of June to mid of October and winter season start from mid October to mid Feburary. In general the climate is dry and hot. The average maximum temperature during summer is as high as 42^0C in month of May and average minimum temperature falls up to 10^0 C during the month of December. The area receives rainfall, chiefly from the south waste monsoon between June and September as the area falls under the rain shadow zone of Western Ghat and receives very low precipitation, annual rainfall ranging from 290 to 594 mm.

Drainage

The Pravara River originates in the hilly regions of Akola tehsil. The river drains the study area along with its major tributaries Mula, Mhalungi and Adhala. Adhala and Malungi originate on Patta fort in the western part and flow in an east to south-east direction before meeting the Pravara river at Sangamner . The length of Pravara river is 200 km, that of Mhalungi and Adhala about 40 km each. The water of Pravara between both Kalasubai and Baleshwar ranges has been developed into a huge reservoir lake, Arthur Lake. The back water of the dam, the Arthur Lake, is up into Ozar weir (90 km from dam site) in Sangamner taluka. Due to Arthur Lake and Ozar were sufficient availability of ground water has helped to develop agriculture.

METHODOLOGY

For the IUCN characterization of forest plants, the study area is divided in to three parts that is Sangamner part-I-II-III, These three parts include 10 round for the characterization of forest namely, Javale Baleshwar, Pemgiri, Chandanapuri, Ghargaon, Sangamner, Vadgaonpan, Varwandi, Saikhindi, Panodi, Sakur and these 10 round are again divided in to 26 beats. Chandanapuri round includes a larger area under forest cover (2707-770 ha.) It is also rich pocket of biodiversity. In 2008, forest department established the Nature Information Centre on 25 ha. The centre is useful for researcher's, academic institutes, schools and colleges. In Sangamner Tehsil Karheghat, Chanadanapurighat, Sakur area is also rich various valuable plants. Department of forest has been taking greate efforts to develop new forest and for that the department has under taken Plantation Programme on large Scale. This will be helpful to conserve biodiversily in future.

Survey and data collection

Frequent field visits were undertaken during 2012-2014 to explore the IUCN categorization of plants from Sangamner Tehsil of Ahmednagar district. All the plant specimens available in the study area were documented and collected. Photographs were also taken. Lists of endangered, threatened, rare and endemic plants found in the sacred grove were also noted with the help of published works of Ahmedullah and Nayar (1986), Nayar and Sastry (1990) and Nayar (1996). The plant specimens were identified with the help of relevant floras such as the Flora of Ahmednagar District (Pradhan and Singh, 1999), Flora of Bombay Presidency (Cooke, 1967), Flora of Maharashtra State, Monocotyledons (Sharma *et al*., 1996) and Flora of Maharashtra State, Dicotyledons, Vol.1 and 2 (Singh and Karthikeyan, 2000; Singh *et al*., 2001), Flora of Maharashtra, Vol: 1-5 (Almeida M. R., 1996-2009) ascertain the nomenclature. The collected plant specimens were properly processed and preserved using prescribed techniques (Jain and Rao, 1967). All voucher specimens were deposited in the museum of Nature Information center of Chandanapurighat, located in the study area.

RESULTS AND DISCUSSION

The present study provides a total number of 444 species of medicinal plants under 281 genera belonging to 107 families. In all 444 plant species have been enumerate out of that rare (158), common (136), common and abundant (36), frequent (33), exostic ornamental (28), very rare (19), endangered (10). *Nanothamnussericeus* (Ateraceae) and *Leucasdeodikarii* (Lamiaceae) are found to be endemic to the study area. Two species from Liliaceae namely *Asparagus recemosus* and *Chlorophytumglaucum* are on low risk. *Pinda concanense* from family apeacea was rare and endemic.

CONCLUSION

Based on the present study it is conclude that forest area Sangamner tehsil is unique, large stretch of semi evergreen and moist deciduous type. Considering the fragile nature of forest it is suggested that it should be conserved.

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