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STUDIES ON BIODIVERSITY OF YASHVANTARO CHAVAN SAGRESHWAR SANCTURY, SOUTH WESTERN MAHARASHTRA, INDIA.

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Abstract:
The research work was undertaken to study the biodiversity of Yashvantaro Chavan Sagreshwar Wild Llife Sanctury, Deorashtre , Tal-Kadegaon, Dist-Sangli , Kolhapur Divison. The study reveals that there is variation in flora in different seasons. A systematic and taxonomical study reveals the occurrence of 64 families, 162 genera and 209species. Since last many years the biodiversity and productivity of this area is decreasing because of human activities. The area is hilly and shows scared grooves and many wild animals. A scientific study of animal biodiversity is carried out and it reveals that there are about 16 reptiles,81 bird species and 11 mammals. The extreme variation in temperature (10Â°C during winter and 46 Â°C during summer) was reported. The soil is with low moisture, poor nutrients and low water holding capacity. Therefore, there is a need of conservation of the rare, endemic and endangered plants of this area. Also, it is necessary that the relevant authorities should maintain animal and bird diversity.

Keywords Biodiversity, Conservation, ecology, taxonomy, species

Introduction

Biodiversity refers to the variety and variability among living organism and the ecological complexes in which they occur. It deals with the degree of natureâ€™s variety in the biosphere and can be observed at three levels - the genetic variability within a species, the variety of species within a community and the organization of species in an area in to distinctive plant and animal communities. The consumptive and productive value of biodiversity is closely linked to social concerns in traditional communities. Ethical values related to biodiversity conservation are based on the importance of protecting all forms of life. The appreciation of the presence of biodiversity is for its inherent value and beauty as well as for the contribution it makes to our knowledge, our aesthetics, imagination and creativity. Unsustainable anthropogenic activities are the major threat to biodiversity. It is our moral duty to look at our planet to the best and pass it in a good health to our future generation. Biodiversity is beautiful and wonderful aspect of nature. Year 2010 was declared as â€œ International Year of Biodiversity.â€ The consumptive and productive value of biodiversity is closely linked to social concerns in traditional communities. Trivedy et. al (1994) reported that forest are renewable source and contribute substantially to economic development of country. M.A.Arifkhan et al (2011) reports the microclimate, environment, vegetation and soil biota as well as carbon sequestration. The agro-biodioversity park will also create awareness and promote to scientific research, education and encourage ecotourism in future. Constant manipulation of the forest ecosystem for resource purpose has not only impoverished the once luxuriant forest belts, but has also brought in its wake deleterious effect loading to disruption of water shed , erosion, loss of soil fertility, continued productivity as well on endangering wild life (Ananthakrishnan,1982). Unsustainable anthropogenic activities are the major threat to biodiversity. Factors which have lead towards the extensive loss of species and destruction of biodiversity are habit destruction, pollution, fragmentation of habitats, exotic species, endangered and endemic species. The Yashvantaro Chavan Sagreshwar Wild Llife Sanctury, Deorashtre is a man made sanctuary and is a homeland for varieties of floras and faunas. This forest experiences dry deciduous forest. It is also featured by thorny vegetation. As the forest is an artificial sanctuary, the plants like Neem, Tamarind, Kashid, Subabool, Gulmohor, Anjan, Nilgiri, Pangar, Chilar, Sisoo, Agrave, Khair, Shiras, Char, Khair, Bahava, Gulmolhar are common. Various wild animals, birds, reptiles have made this place as their home ground. Animals like Sambhar, Blackbucks, Wildboar, Barking Deer, Chital, Fox, hyena and Porcupine roam freely and they are allowed to regenerate so that ecological balance is maintained. Apart from wild animals, a good number of reptiles, amphibians also have their breeding ground in this sanctuary. The large historic shrines of Lord Shiva create an enigmatic situation coupled with thrill and excitement.

Material and Methods

The study area was visited regularly to collect the plant specimens. The observations on ecological aspects, animalsâ€™ population and birds were made during the visits.The plant specimens were collected in polythene bags and brought to the laboratory. The specimens were poisoned with 1% mercuric chloride solution in alcohol as pesticide and later on treated specimens were numbered and mounted on standard herbarium sheet and kept in the department as per method of Naik (1989). The mounted herbarium sheets were identified using textbook and standard floraâ€™s viz. Flora of Bombay Presidency, 3 volumes by Cooke (1901-1914), Flora of Maharashtra by Naik and associates (1988), Flora of Maharashtra State, Dicotyledons by Singh et. al. (2004), Flora of Maharashtra State, Monocotyledons by Sharma et. al. (1996), Flora of Kolhapur District, S. R. Yadav and M. M. Sardesai (2002), Flora of Baramati by R.B.Bhagat, V.B.Shimpale, R.B.Deshmukh and Groves of beauty and plenty. An atlas of major flowering plants in India by Swaminathan and Kocchar (2003), Flowers of Sahyadri (Ingalhalikar, 2001), Flowering Trees (Randhawa, 1965) and Common Trees by Santapau (1966) were also referred.The ecological field studies on various aspects were also carried out. The ecological field notes were recorded as per the methods of Trivedy, Goel and Trisal (1987), Shrivastava (1986) and Sutherland (1996). The observations on birds, reptiles and wild animals were also carried out. The birds were identified as per standard Hanbook of Salim Ali and S. D. Riply (1972) on the birds of India and Pakistan. In addition, the book on Indian birds by Salim Ali (1979) was referred. The replies were identified by standard book viz. Sankes of India by Deoras (1969).The wild animals were also identified by using book by Sheshadri (1994) namely Call of the Wild, Survival in Sun.

Result and Discussion

Yashvantaro Chavan Sagreshwar Sanctury , Deorashtre ,Tal-Kadegaon,Dist-Sangli Section Kolhapur is the most important locality for ecological and biological studies of South-Western hilly region of Maharashtra. During the study on biodiversity in this area, the important observations recorded are: 1. It has great varieties of flora and fauna. 2. It is a dry deciduous thorny type of forest with herbs, shrubs, climbers and trees. 3. The total plant species located in this area are 209; two sub species and one variety. All of them belong to 64 families. 4. There are 58 families of dicotyledons and 8 families of monocotyledons. 5. The dicotyledons are represented by 141genera with 171 species. 6. The monocotyledons are represented by 31 genera and 38 species. 7. Dicotyledons represent 69 species of Polypetalae, while the Gamopetalae represents 53 species and Apetalae members are represented about 19 species. 8. The monocotyledons groups are represented by 38 species out of which grasses are dominant. 9. The dominant families in this area are Fabiaceae, Caesalpinaceae, Asteraceae, Asclepidaceae, Convolvulaceae, Euphorbiaceae and Poaceae. 10. A scientific study of animal biodiversity reveals that there are about 16 reptiles, 81 birdsâ€™ species and 11 mammals. 11. The Sanctury is exposed to fluctuating environmental conditions i.e. at Western region is comparatively more rain fall during the rainy season and Eastern region appear to be dry. 12. The study requires the need of conservation of the rare, endemic and endangered plants of this area. 13. It is also necessary that the relevant authorities should maintain animal and bird diversity conservation.

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Reference

1. Aninthakrshnan, T. N., (1982) : Bioresearches Ecologe Oxford and IBH Publication. 159 pages.

2. Bhagat R.B., Shimple V.B. and Deshmukh R.B. (2008): Flora Baramati

3. Champion, H. G. and A. K. Seth, (1968) : A resived survey of Forest Type of India, Delhi.

4. Cooke, Theodore, (1901*) : The Flora of the Presidency of Bombay, Vol. 1, 2 and 3, BSI Publication, Culcutta, Reorinted in 1958.

5. Deoras P. J. (1965) : Snakes of India, India, The land and people series, pp. 144 National Book Trust New Delhi.

6. Gadgil M. and Vartak V.D. (1976) : The sacred Groves of Western Ghat in India. Econ. Bot. 30 :152-160

7. Gadgil M. and Vartak V.D. (1981) : Sacred Groves of Maharashtra : An Inventory. In Glimpses of Ethnobotany ; Jain S.K. (ed). Oxford University press, Bombay, pp-279-294.

8. Ingalhalikar, Shrikant (2001) : Flowers of Sahydari, pp. 210.

9. M.A.Arifkhan , K.Prabhawati, R.Ranghavaih, V.Vasudeva Rao and M.V.R. Subramanyam (2011) : Conservation of flora and faunal diversity in an extensive newly estibilished agri-biodiversity park ; Angrau campus, Hydrabad, J.Swami Bot. Cl.28:1-6.

10. Naik, V. N., (1989) : Taxanomy of Angiosperms. THM publishing Company, New Delho, 304 pages. 11. Naik V. N. and associates, (1998) : Flora of Marathwada, Vol. 1 and 2, Amrut Prakashan, Aurangabad.

12. Randhawa M. S., (1965) : Flowring Trees, National Book Trust, New Delhi, 208 pp.

13. Salim, Ali and S. Dillon Ripley, (1972) : Hand Book of the Birds of India and Pakistan, Vol. 1 to 12, BNHS, Oxford University press publications.

14. Salim Ali (1979) : The Book of India Birds, BNHS, publication 187 pages.

15. Santapau H., (1966) : Common Trees, National Book Trust New Delhi. 118 pp.

16. Seshasdri B, (1994) : Call of the Wild in theSun. Indianâ€™s Wildife and Wildife Reserves, Sterling Publishers Pvt. Ltd., New Delhi, 261 pages.

17. Singh N. P., P. Lakshminarsinhan, S. Kartikeyan and P. V. Prasanna (2004) : Flora of Maharashtra State; Dicotyledones Vol. I and II, B. S. I., Publication Calcutta.

18. Sharma B. D., S. Karthikeyan and N. P. Singh (1996) :Flora of Maharashtra. Monocotylendons. B. S. I. Publication, Calcutta.

19. Shrivastava M. B. (1996) : Ecological Census Techniques, A Handbook, Cambridge University press, 336 pages.

20. Sutherland, W. J., (1996) : Ecological Census Techniques, A Handbook.

21. Trivedy, R. K. : P. K. Goel and C. L. Trisal (1987), Practical Methods in ecology and Environmental Science, Enviro Media Publications, Karad (India), 240 pages.

22. Trivedi P. R. : U. K; Shing : K. Sudarshan and T. K. Tuteja, (1994), International Encyclopedia of Ecology and Environment, State of Indians Environment. Vol. 2 pages 37-77.

23. Yadav S. R. and Sardesai M.M. (2002) : Flora of Kolhapur District.