## PHYTOSOCIOLOGICAL STUDIES ON BIODIVERSITY OF BONAIGARH FOREST DIVISION, SUNDERGARH DISTRICT, ODISHA

## <sup>1</sup>Satyabrata Nayak<sup>\*</sup>, <sup>2</sup>Bandan Kumar Bhuyan, <sup>3</sup>Gourab Kumar Satapathy, <sup>4</sup>Sumant Das and <sup>5</sup>Vikas Kumar

<sup>1</sup>Dept. of Tree Physiology and Breeding, College of Forestry, KAU, Thrissur, Kerala <sup>2</sup>Dept. of Agroforestry, College of Forestry, Dr. YSPUHF, Nauni, Solan <sup>3</sup>Dept. of Forest Genetic Resources, College of Forestry, OUAT, Bhubaneswar <sup>4</sup>Dept. of Wood Science and Technology, FRI, Dehradun <sup>5</sup>Department of Silviculture and Agroforestry, College of Forestry, KAU, Thrissur, Kerala Email: <u>vkskumar49@gmail.com</u>

## Received-04.07.2016, Revised-25.07.2016

**Abstract:** The present study deals with the phytosociological study on flora and fauna diversity of Bonaigarh forest division, Sundergarh district, Odisha, India during 2014-2015. A total of 323 species were recorded which represented by 133 families and 270 genera. Out of 323 species, 120 trees (42 family and 99 genera), 61 shrubs and herbs (32 family and 51 genera), 19 climbers (13 family and 17 genera), 25 grasses (18 genera and poaceae family), 35 mammals (18 family and 30 genera), 13 reptiles (7 family and 12 genera) and 50 birds (20 family and 43 genera).

Keywords: Phytosociological, diversity, Bonaigarh Forest Division, Sundergarh district, Odisha, flora and fauna

## REFERENCES

Ahmed, M., Husain, T., Heikh, A.H.S., Hussain, S.S. and Siddiqui, M. (2006). Phytosociology and structure of Himalayan forests from different climatic zones of Pakistan. Pak. J. Bot. 38(2): 361-383.

**Badauni, N.P. and Sharma, C.M.** (1996). Effect of aspect on the structure of some natural stands of some Q. semecarpifolia in Himalayan moist temperature forests. Indian J. For. 19(4): 335-341.

**Blatter, E.J. and McCanm** (1926-1935). Revision of the Flora of Bombay Presidency. J. Bombay Nat. Hist. Soc. 35: 20-45.

**Dasti, A.A. and Malik, S.A.** (2000). A transect of vegetation and soils on the Indus Valley Slope, Pakistan. Pakistan J. Pl. Sci. 4: 73-84.

**Dolezal, J. and Srutek, M.** (2002). Altitudinal changes in composition and structure of mountain temperate: A case study from the western Carpathians. Springer Netherlands, 158: 201-221.

Gaston, K.J. and Spicer, J.I. (2004). Biodiversity: an introduction. 2nd Edition. Blackwell Publishing.

**Ilorkar, V.M. and Khatri, P.K.** (2003). Phytosociological study of Navegaon National Park (Maharashtra). Indian For. 129 (3): 377-387.

**Kaduvul, K. and Parthasarathy, N.** (1999). Plant biodiversity and conservation of tropical semievergreen forest in the Shervarayan hills of Eastern Ghats, India. Biodiversity and Conservation 8: 421-439.

**Kikim, A. and Yaadava, P.S.** (2001). Phenology of tree species in sub tropical forests of Manipur in North eastren India. Trop. Ecol. 42: 269-276.

**Kumar, V.** (2012). Ecology of some rare and endangered plant species of the Dangs forest, Gujarat. M.Sc. Thesis submitted to Navsari Agricultural University, Navsari, Gujarat, India.

**Kumar, V.** (2016a). Phytosociological Study of Waghai Forest Range in Dang District, South Gujarat, India. Tropical Plant Research (In press).

**Kumar, V.** (2016b). Biodiversity and Phytosociological Analysis of Plants around the Chikhali Taluka, Navsari District, Gujarat, India. Bioinfolet (In press).

Kumar, V., Desai, B.S. and Ajeesh, R. (2013). Ecology of Rare and Endangered plant species of Dang's Forest, South Gujarat. LAP LAMBERT Academic Publishing, Germany.

Lal, J.B., Bahuguna, V.K., Hilaluddin and Hussain, S. (1994). Ecological studies of sal forest in Bamkura North Forest division, West Bengal. Van Vigyan, 32: 15-22.

**Mohammad, S. and Joshi, S.P.** (2015). Life form and Biological Spectrum of Dry Deciduous Forests in Doon Valley, Uttrakhand, India. International Journal of Environmental Biological 5(1): 1-10.

Mueller, D.B. and Ellenberg, H. (1974). Aims and Method of vegetation Ecology, pp. 200. John Wiley and Sons, Inc., New York.

**Odum, E.P.** (1971). Fundamentals of Ecology WB Saunders and Co., Philadelphia. pp574.

**Palomino, R.L. and Alvarez, S.I.P.** (2009). Structural patterns and floristics of a seasonally dry forest in Reserva Ecologica chaparri, Lambayeque, Peru. Tropical Ecology 50: 305-314.

Shah, G.L. (1978). Flora of Gujarat state. Sardar Patel University. Vallabh Vidyanagar.

\*Corresponding Author

Shah, G.L., Menon, A.R. and Gopal, G.V. (1981). An account of the ethnobotany of Saurashtra in Gujarat state. J. Econ. Tax. Bot. 29: 173.

Shrestha, T.K. (1999). Nepal country report on biological diversity. Katmandu, IUCN, Nepal. p 133. Singh, J.S. (2002). The biodiversity crisis: a

multifaceted review. Current Science 82: 638-647.

**Singh, R.** (1976). Structure and net community production of the herbaceous vegetation in the sand dune regions around Pilani, Rajasthan. Ph.D. Thesis, BITS, Pilani, Rajasthan. pp450.

Singh, R. and Joshi, M.C. (1979). Floristic composition and life forms of sand dune herbaceous vegetation near Pilani, Rajasthan. Indian J. Econ. 6: 9-19.

**Sundarapandian, S.M. and Subbiah, S.** (2015). Diversity and tree population structure of tropical dry evergreen forests in Sivagangai district of Tamil Nadu, India. Tropical Plant Research 2(1): 36-46.

**Tewari, J.C.** (1982). Vegetational analysis along altitudinal gradients around Nainital. Ph.D. Thesis, Kumaon University, Nainital, India.

**Thakur, M., Santvan, V.K. and Nigam, A.** (2012). Floristic Composition and Biological Spectrum of Darlaghat WildLife Sanctuary, Solan, Himachal Pradesh, India. New York Science Journal 5(12): 1-14.

**Vashi, B.G.** (1985). Floristic, phytosociology and ethnobotanical study of Umarpada forest in South Gujarat. PhD Thesis, Veer Narmad South Gujarat University, Surat, Gujarat.

**Vediya, S. and Kharadi, H.** (2012). Biological spectrum of Ramgadhi (Megraj) range Forest, District Sabarkantha, North Gujrat, India. International Journal of Pharmacy & Life Sciences 3(7): 1868-1870.