FLORISTIC DIVERSITY AND STRUCTURAL ANALYSIS OF MANGROVE FORESTS AT AYIRAMTHENGU, KOLLAM DISTRICT, KERALA

Vishal Vijayan* Rahees, N. and Vidyasagaran, K.

Department Of Forest Management and Utilization, College of Forestry, Kerala Agricultural University, Vellanikkara, Kerala – 680656, India
Email: vishal00v@gmail.com

Received-26.01.2015, Revised-02.02.2015

Abstract: Vegetation science is a scientific discipline devoted to studyplant communities, their composition, evolution and the relationships among the component species.The present study focuses on floristic diversity and richness of the Mangroves in Ayiramthengu, Kollam district. A total of 9 species belonging to 6 families were enumerated. The forests showed a dominance of Avicenna marina followed by Avicennia officinalis belonging to Avicenniaceae family, whereas Sonneratia caseolaris recorded lowest density.Maximum relative basal area was represented by Avicennia marina followed by Avicennia officinalis, therefore these species registered the highest Importance value index (IVI) and relative IVI among the 9 mangroves species distributed. Diversity indices such as Shannon Weiner index H' (2.763), equitability (0.872) and Simpson's diversity index (0.825)was worked out for the entire Ayiramthengu island. The mangroves are closely related to the social and cultural life of people in Ayiramthengu and its unique composition has to be protected in its pristine condition.

Keywords: Mangrove forest, Floristic composition, Diversity indices, Important value index

REFERENCE

Alongi, D.M. (2009). Present status and future of the world's mangrove forests, *Environmental conservation*, 29: 331-349

Basha, C.S. (1991). Distribution of Mangroves in Kerala. *Indian forester*, 117(6): 439-449

Cottom, G and Curtis, J.T. (1956). The use of distance measures in phytosociology sampling. *Ecology*, 37: 451-460

Dudley, N., Higgins- Zogib, L. and Mansourian, S. (2005). The Arguments for Protection Series-Beyond Belief: Linking faiths and protected areas to support biodiversity conservation, World Wide Fund for Nature, pp. 91-95

Ellison, A.M. and Farnsworth, E.J. (2001). Mangrove communities. In: M. D. Bertness, S. Gaines & M.E. Hay (eds.) Marine Community Ecology. Sinauer Press, Sunderland, Massachusetts, USA. pp. 423-442

Forest Survey of India (2005). In State of Forest Report 2005, FSI, Dehradun, pp. 26– 30

Jain, S.K and Rao, R.R. (1976). A handbook of Field and Herbarium Methods. Today and Tomorrow Printers and Publishers, New Delhi. 157 pp

Jose, H.T. (2003). Phytosociology and edaphic attributes of mangrove forests in Kannur district, Kerala agricultural university B.Sc. project report, pp 16-40.

Legendre, P. and Legendre, L. (1998). Numerical ecology, 2nd English edition. Elsevier Science, 853 pp

Margalef, D.R. (1958). Information theory in Ecology. *Yearbook of the society for general systems research*, 3: 36-71.

Michael, A.J. (1998). Determination of stress from slip data: Faults and folds. *Journal of Geophysical Research*,89: 11,517-11,526.

Rao, M.V.L. (1986). Indian ocean biology of benthic organisms. Oxford & IBH publishing co., pvt ltd company, New Delhi, 579 pp.

Subramanian, K.N. (2002). Wet land resources with particular reference to the mangroves of Kerala. In:Kamalakshan, K., Premachandran, P. N., Biju, K.,(Eds.) Compendium on the Focal Theme of 14th Kerala Science Congress. Published by State committee on Science, Technology and Environment pp. 119 - 130

Swaminathan, M.S. (1991). Genesis of Workshop (Fore word) in *Proceedings of the formulation workshop for establishing a global network of mangrove genetic resource centers for adaptation to sea level rise.* (Sanjay,V.,Deshmugh, and RajeswariMahalingarn., Eds.) January 15- 19, Madras India. Proceedings No.2, CRSARD. Madras.India.

Tomlinson, P.B. (1986). The Botany of mangroves.Cambridge University Press, U.K, 413pp.

Vidyasagaran, K. Madhusoodanan, V.K. (2014). Distribution and plant diversity of mangroves in the west coastof Kerala, India. *Journal of Biodiversity and Environmental Sciences*, 4: 38-45

Vidyasagaran, K., Ranjan, M.V., Maneeshkumar, M. and Praseeda, T.P. (2011). Phytosociological analysis of Mangroves at Kannur district, Kerala. *International Journal of Environmental Sciences*, 2: 671-677.

*Corresponding Author