



## ASSESSMENT OF PLANT DIVERSITY IN ROWA WILDLIFE SANCTUARY, TRIPURA NORTH-EAST INDIA

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**Abstract:** The plant diversity of Rowa Wildlife Sanctuary (RWLS) was assessed during 2014-15 by following random sampling method. A total of 56 species representing 55 genera and 40 families were found in the sanctuary. *Grewia microcos* emerged as the dominant tree species which has several medicinal properties and other dominant tree species include *Aquilaria agallocha* (Agar) followed by *Streblus asper*. The highest plant density of RWLS was recorded for herb species (2030 individuals/ha), followed by trees (1120 individuals/ha) and shrubs (365 individuals/ha). The Shannon Wiener Index (H') ranged between 1.52 and 2.69. The highest diversity was that of herbs (2.69). Diversity information of the WLS provide an crucial information for management of the sanctuary.

**Keywords:** Rowa WLS, Diversity, Index

**Citation:** Honnareddy N., Gupta AK, Ranebennur H, Kumar H, Singh SK (2016) Assessment of plant diversity in Rowa Wildlife Sanctuary, Tripura North-east India. Indian J Trop Biodiv 24(2): 158-164

Received on : 03 Nov. 2016  
Accepted on : 18 Nov. 2016  
Published on : 30 Dec. 2016

Biodiversity is increasingly considered a key resource for the raw materials on which our future biotechnological development, agricultural produce and pharmaceutical industries will depend and its economic potential now appears to be greater than any other natural resource (Gupta A.K). In this context inventorizaion of biological resources available with any country is essential prerequisite for protecting the valuable resources. The tropical forests are rich in biological diversity and possess a significant portion of world's plant and animal resources. The status and function of forest ecosystem is determined by the plant component more than any other living component of the system (Richard, 1996). The quantification of tree species diversity is important for understanding habitat ecosystems (Gentry, 1990; Hartshorn, 1990). Because tree influences nutrient cycling and energy flow (Moore and Allen, 1999) and provides habitat for wildlife and partly regulates microclimatic conditions (Ramvos and Roberts, 2003). Protected areas are excluded from human interventions and represent perhaps the frontiers of conservation of genetic biological diversity in an otherwise human-ravaged landscape (Uma Shanker et al., 2004). Floristic diversity is a prerequisite for fundamental research in community ecology, such as modelling patterns of species diversity or understanding

species distribution patters (Giriraj et al., 2008). Species diversity is one of the important indices used for evaluating the sustainability of forest communities and it is generated by species interaction such as competition and niche diversification (Pianka, 1966). Accurate assessment and understanding of the dynamics of plant resources is important for their sustainable management, utilization and biodiversity conservation (Rana et al; 2010). Quantitative inventories also help in the identification of economically useful speices as well as the species of special concern i.e. rare, endangered, endemic, threatened or vulnerable (Keel et al., 1993) and thus enormous implication in conservation and management of forests (Campbell, 1994).

There are many studies pertaining to the plant diversity in protected areas in India, such as, Western Ghats (Sukumar et al., 1992), Western Himalayas (Rawat et al., 1999), Central Himalayas (Samant et al., 2000). Tripura is the second smallest state of North-east India with 10,491 sqkm geographical area and belongs to biogeographic zone 9B. About 69 % of the geographical area is recorded forest and has four wildlife sanctuaries and two national parks. There are few studies carried out in Tripura regarding the plant diversity like species diversity, distribution and population structure of cachar tropical semi-evergreen forest types (Majumdar K et al., 2015) and vegetation types, dominant compositions, woody plant diversity