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Ajay Kumar Sonwani

Assistant Professor,

Department of Botany, Pt.

S.N.S. University, Shahdol

Madhya Pradesh, India

Preliminary survey of Phyto-diversity in forest of Anuppur district (Madhya Pradesh), India

Ajay Kumar Sonwani

Abstract

Phyto-diversity is the range of differences of variances along the same set of entities, thus refers to verity within the plant kingdom. In this article, I describe a phyto-diversity that serves as a framework for analyzing biodiversity of this area. Forests of Anuppur are deciduous. Weather in Forest of Anuppur is the best during winters and the tropical climate throughout the year which means that the summers are quite hot with rising temperatures and monsoons are quite heavy as well. The best time to visit Forest of Anuppur is during the winter time when temperatures drop down drastically and makes the climate absolutely cool and perfect to head out and explore the wildlife and plant life. An extensive and intensive plant survey was carried out from 2021 to 2022. Preliminary study of Forest of Anuppur shows rich plant diversity in respect to 40 families and 115 species along with 116 genera. Phyto-diversity Forest of Anuppur district of Madhya Pradesh is very rich. Present study records a total of 115 Plants species which are distributed in 116 genera and 40 Families. Different life forms diversity is Herbs 60.87% (70), Shrubs 9.57% (11), Trees 19.13% (22) and climbers 10.43% (12). The outcome of this work will be valuable document for Botanist and taxonomical study and other researcher investigating in different fields.

Keywords: Phyto-diversity, forest, Anuppur, biodiversity

Introduction

Millions of species are grown in our planet. The biodiversity found on earth today consisting of many millions of distinct biological species which is the product of nearly 3.5 billion years of evolution and came into existence, flourished and vanished due to various reasons (Sainkhediya and Ray, 2014) ^[19]. Phyto-diversity of Forest of Anuppur is represent the richness of varied life form. District Anuppur is situated in the south-eastern part of Madhya Pradesh. On 15th August, 2003, Anuppur district has been formed from the district of Shahdol. Total area of newly formed Anuppur district is 3746.71 sq. Km. It is 1.2 percent of the state. In the east of the district, Chhattisgarh is in the state of Korea, Dindori in the south and Bilaspur in Chhattisgarh state and Shahdol district in the north and west. This district is located between 23.10 north latitude 35.36 north latitude and 41.40 to 82.10 east longitude. 20.40 percent of the district is well-rounded with forests. The main tree year, Amla, Teak, Sarai, Acacia, Sisam, etc.

Literature survey

It seems from above interpretation that although the district has rich vegetation but very little floristic work has been undertaken so far visited Kharkwal *et al.* (2005) ^[9], Negi *et al.* (2005) ^[13], Jain *et al.* (2011) ^[8], Sinha and Sinha (2013) ^[15], Tiwari and Tiwari (2014) ^[16], Gaikwad *et al.* (2014) ^[4], Bramhe (2015) ^[1], and Gwalwanshi (2017) ^[5] and no consolidate efforts have been made to work out the diversity of the district as a whole. Keeping these points in view an assessment of phyto-diversity of Anuppur was done in 2021-2022 in the preparation of flora of the area an account of 130 taxa as a precursor to the area of forest of Anuppur district (M.P.) India, has been dealt in the present paper.

Methodology

Intensive and extensive plant survey was carried out during the year 2021-2022. Exploration work is done in each season. All habitats surveyed carefully. The vegetation and distribution pattern of the plants were studied. Plant collection and herbarium preparation is done by method suggested by Jain and Rao, (1977) ^[18]. Plant material is preserving mercuric chloride and alcohol and dried plant is mounted on herbarium sheet with the help of fevicol. Identification of plants done with the help of flora Hooker, (1892-1897) ^[7]; Cook, (1903) ^[2]; Hains, (1921-1924) ^[6]; Duthi, (1960) ^[3]; Shah, (1978) ^[14]; Verma *et al.*, (1993) ^[17]; Mudgal *et al.* (1997) ^[11]; Naik, (1998) ^[12]; Singh *et al.*, (2001) ^[15]; Khanna *et al.*, (2001) ^[10]; and

Corresponding Author:

Ajay Kumar Sonwani

Assistant Professor,

Department of Botany, Pt.

S.N.S. University, Shahdol

Madhya Pradesh, India

other taxonomic literature. The entire plant specimen was deposited in herbarium of Deptt. of Botany, Pt. S.N.S. University Shahdol (M.P.) India.

Plan of work

Forest of Anuppur district are selected because of thick population are presented and village wise study is conducted whereas the deep forest areas and these area are selected randomly. Plants related information is obtained and detailed discussion is note down on filed dairy. During the study villagers interviewed are arranges with senior persons who is aware about vegetation pattern of the area and diversity survey of different targeted sites of Anuppur district forest were selected. For this 25 filed trips are made and field's sites were frequently visited for diversity studies. The plant specimens are collected into different time and seasonal data are gathered and climatological data like temperature, humidity etc. recorded. Filed notes have been also noted in field dairy. Family's area arranges according to Hooker (1892-1893) [7] system of classification. Corrected author citation are given of listed texa is provided. Current nomenclature of ICBN is fallowed and botanical as well as families changed name advance classification of APG-IV has been followed.

Result & discussion

Present study reports 115 plant species which is distributed in 40 families 116 genera. Dicotyledons consist of 93 species with 96 genera and 33 families and monocotyledons consists 22 species, 20 genera and 7 families (Table-1).

Table 1: Distribution of taxa

Angiosperm		Species	Genera	Families
Dicotyledons	Polypetalae	52	54	20
	Gamopetalae	33	34	9
	Monochlamydeae	8	8	4
	Total	93	96	33
Monocotyledons		22	20	7
	Grand Total	115	116	40

Table 2: Phyto-diversity in forest of Anuppur district

S. No.	Life forms	No. of species	%age
1.	Climbing herbs	12	10.43
2.	Herbs	70	60.87
3.	Shrubs	11	9.57
4.	Trees	22	19.13

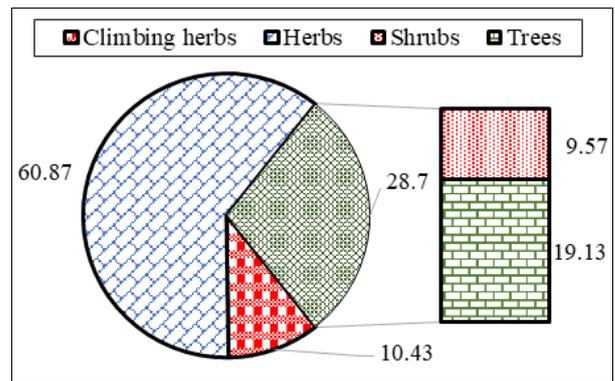


Fig 1: Life form in forest of Anuppur district



Fig 2: Distribution of taxa in Dicotyledons and monocotyledons

Our study reports 115 species and 123 genera which appear to be a good representation of the flora for a small region. Out of the 40 families 116 genera and 115 species monocotyledons share 7 families (14.28%), 20 genera (40.82%) and 22 species (44.90%) and Dicotyledons share 33 families (14.87%), 96 genera (43.24%) and 93 species (41.89%, Table-2 & fig.-1). Life form diversity is presented in figure -2. The vegetation structure of the area is remarkably changing due to anthropogenic pressure and urbanization. The biodiversity of the world is reducing 10% due to eradiation. For this action and care should taking to conserve of taxa. Table-3 showed the Phyto-diversity of forest of Anuppur district.

Conclusion

The present study assessment of phyto-diversity of forest of Anuppur district is first study, which shows the importance of the area in terms of phyto-diversity. Species number is

very high compared to others district flora of Madhya Pradesh. It is only possible due to various habitats present with particular. Our study is recorded the phyto-diversity of different habitat where is the some glimpse of this region. In this area some texa are left unrecorded so it is need of hour to study long term comprehensive study to document.

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