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Plant species of family Euphorbiaceae from Badalkhol sanctuary of Surguja district, Chhattisgarh

Shilpa Tiwari and Kumud Sandya

Abstract
The present paper deals with enumeration of plant species of family Euphorbiaceae, which are grow in the area of Badalkhol sanctuary of Chhattisgarh state, India. Plant exploration was conducted to determine plant species of family Euphorbiaceae. Taxonomic position of these plant species is described in various available Floras. Plant species of family Euphorbiaceae from Badalkhol sanctuary area, have been listed systematically which counts 25 species of 15 genera, these plants species grow wild as well as cultivated.

Keywords: Euphorbiaceae, Badalkhol sanctuary, Surguja district

Introduction
The Euphorbiaceae family contains a large variety of phytotoxins, a toxic substances produced by plants, A milky latex is a characteristic of the Euphorbiaceae. It includes Trees, shrubs, herbs and twiners. Life span is perennials and annuals. This family easily recognized by their inflorescences-Cyathium. The present work reported enumeration and systematic survey of Euphorbiaceae family from mentioned area.

Study area
The sanctuary is located near Semarsot on the Ambikapur- Daltongunj road. Semarsot is about 50 kms from Ambikapur district headquarters of Surguja district. The nearest railway station is at Ambikapur. The nearest airport is Darmia Airport, Ambikapur CG 18 Km from Gandhi Chowk. The area is situated in the northern extension of Ramgarh hills in a north-easterly direction. The area has a border with Bihar state in the east. Tropic of Cancer passes through the area. The geographical situation of the Sabarmati river is between 22°50’ to 23°50’ North latitude and 84° East longitude. The area of the sanctuary is 430.36 Sq. Kms.

Material and Methods
The study on angiosperms of family Euphorbiaceae from the Badalkhol sanctuary of Surguja district (C.G.), India is based on the results obtained from both extensive and intensive studies of the vegetation of area under study. Field survey was carried out for collection of plants. Identification of plant species during field work was done by compiling different floras available and authenticated by experts from B.S.I., Allahabad (U.P.) India. The photographs of all the plant species were taken during field trip. This piece of work is survey based. Surveys were made for a Three years (2019-2021) to collect and identify the flowering plants. The collected plants were categorized according to their Family, Scientific name, Vernacular name and Habit represent in description.

Preparation of plant extract
Coarse powder from the shade dried leaf part of (50 g) was extracted to exhaustion successively with ethanol extract using a soxhlet apparatus.

Result

Table 1: The list of collected plants.

No	Botanical Name	Local Name (In Hindi)	Habit	Cultivated or Wild	Remarks
1.	*Acalypha ciliata* Forsk.	Haritmanjari	H	W	Common
2.	*Acalypha indica* L.	Khokoli	H	W	Common
3.	*Baliospermum montanum* Willd.	Danti	H	C	Common
4.	*Bridelia retusa* (L.) Spr.	Kaji, Khaja	T	W	Common
5.	*Chrozophora rottleri* (Geis) Juss.	Shadevi	H	W	Common
6.	*Croton bonplandianum* Baill.	Kala Bhangra	H	C	Common
7.	*Pedilanthus tithymaloides* (L)	Vilayati sher	H	C	Common
8.	*Drypetus roxburghii* (Wall.)	Putijia	T	C	Not common
9.	*Dalechampea scandens* L.	Khoti khajavani	Tw	W	Not common
10.	*Emblica officinalis* Gaertn.	Ambla	T	C	Common
11.	*Euphorbia heterophylla* L.	Titli phool	H	W	Very common
12.	*Euphorbia hirta* L.	Bara dudhi	H	W	Very common
13.	*Euphorbia neriifolia* L.	Sehund	S	W	Very common
14.	*Euphorbia nivulia* Buch -Ham.	Katathohar	S	W	Very common
15.	*Euphorbia orbiculata* H.B.&K.	Dudhi	H	W	Common
16.	*Euphorbia parviflora* L.	Ubhi dudheli	H	W	Common
17.	*Euphorbia tirucalli* L.	Anglithor	S	C	Common
18.	*Jatropha curcas* L.	Jamalghota	S	W	Common
19.	*Jatropha gossypifolia* L.	Ratanjoti	S	W	Common
20.	*Kirganelia reticulata* (Poir.) Baill	Panjuli, Makhi	S	W	Common
21.	*Phyllanthus fraternus* Web.	Bhuinanvalah	H	W	Very common
22.	*Phyllanthus urinaria* L.	Bhuianvalah	H	W	Very common
23.	*Phyllanthus virgatus* Forsk.	Bhuiamla	H	W	Common
24.	*Ricinus communis* L.	Arandi	S	C	Common
25.	*Securinega leucopyrus* (Willd.)	Amla	S	W	Common

[T-Tree, S-Shrub, Us-Undershrub, H-Herb, Cl-Climber, Tw-Twiner, W- wild, C- cultivated,]

Statistical analysis of family
Family Euphorbiaceae

Genera	15
Species	25

Analysis of Habit

Herbs	Shrubs	Trees	Twiners
13	08	03	01

Analysis of Cultivated / Wild plants

Wild plants	Cultivated plants
18	07

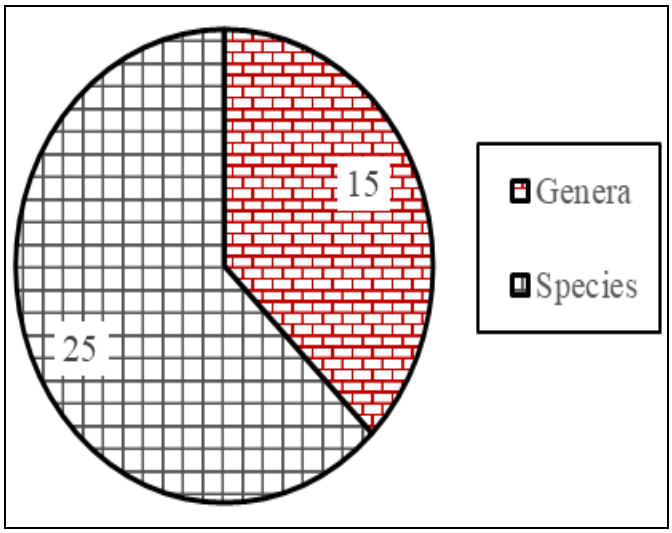

Fig 1: Graph analysis family Euphorbiaceae - Genera and species

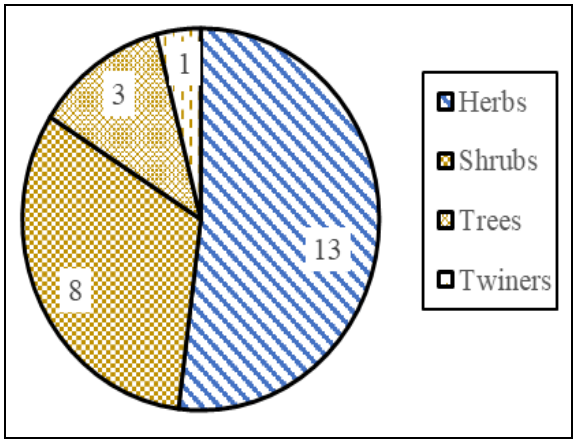

Fig 1: Graph analysis of habit

Discussion & Conclusion

The analysis of the plant species in the area gives the result that the total Angiosperm flora including naturalized and indigenous plants comprises of about 25 species belong to 15 genera of the family. The dominance of the plant species especially of semi-arid zone type and presence of different life forms like herbs, shrubs, twiners and trees in a particular ratio shows clear structural of the semiarid zone to arid zone. The most of the species as weeds are mainly found in this study area. A good percentage of the herbs species present in the area. This explains one of the unique characteristics of the riparian ecology where the riverside always remain open and its influence determines abundance and presence of the medium sized evergreen and riparian tree species. There are herb 13 species, shrub 08 species, tree 03 species, twiners 01 species. There are 17 common species, 06 very common species, 02 not common species. There are 07 cultivated plant species and 18 wild plant species.

Awasthi *et al*. (2007) [1] have also reported floristic diversity of Bandhavgarh national park, enumerating 47 plant species. Inamati *et al*. (2007) [2] have reported 43 families represented by 130 spp. across four altitudinal zones in Devimane, (Western Ghats) Karnataka.

Thakur *et al.* (2009) [3] have reported Generic coefficient as 86.3% in forest vegetation of Sagar district in M.P. They have reported 31 dicot and 1 monocot families distributed in 63 genera and 73 species of trees.

Nayar. *et.al.* (2008) [4] has also provided a preliminary analysis of flowering plants of Kerala based as 1303 publication appeared until 2008. They have stated that the state harbours 4694 species under 1418 genera and 188 families.

Suresh *et.al*. (2008) [5] have enumerated 67 species from disturbed area of Thaniparai hills and 72 species from undisturbed area of Sundaramahalingan hills under Grizzled Giant squirrel wildlife sanctuary forest of Virudhunagar district. They have reported 51 families from the two sites with 125 genera and 139 species.

Naidu (2019) [6] have also extensive survey has been conducted to find out the various types of forest flora 44 shrub species belonging to 22 families, their local names and various uses by the local inhabitants including medicinal values were recorded during the survey. The parameters such as frequency, density and abundance were also undertaken.

Acknowledgement

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