Research Paper

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Plant Species of Family Tiliaceae of Sabarmati River , Gandhinagar , Gujarat State , India.

BOTANY

KEYWORDS : Tiliaceae, Sabarmati ,Gandhinagar.

Bharat B. Maitreya Sir P. P. Institute of science,Maharaja Krishnakumarsinhji Bhavnagar University,Bhavnagar

ABSTRACT

Plant species play an important role in Earth ecosystem. Plants are classified into Phanerogames and Cryptogames .Phanerogames are flowering plants and classified in Angiosperms and Gymnosperms ,As per classification system similler characteristic having plant of group classified into Family ..According to that The present research paper give the information regarding plant species of Tiliceae family grow in the area of Sabarmati riverside at Gandhinagar, Gujarat state , India. I enumerate and prepare a list of Plant species belongs to family Tiliaceae .These plant species described in various Flora. Plant species of family Tiliaceae listed systematically which counts 12 species of 03 genera ,Tiliaceae Family have wild and cultivated plant species in the area.

INTRODUCTION

Tiliaceae family belongs to Dicot Polypetalous Angiosperms, These are herbs, Shurbs and Trees habit . Mucilage presence in different part of plant. Leaves are Simple, alternate and with petiole. Flower has five petals and many stamens. Plant fibers obtain from some species of Tiliaceae. This is ecologically and economically important plant Family. Riparian vegetation are unique vegetation ,wild grow of plant species and it also affected by human beings and domestic animals. Monsoon and Post monsoon season species richness is very high and in Summer it shown very poor vegetation .In the study site mostly deciduas type of vegetation. Earlier Study of vegetation , The Plants of Northern Gujarat published by Saxton, W. T. and Sedgwick L. J. (1918)[7] ,Shah, C. K. (1963)[8] enumerate the sedges of Sabarmati ,Bhatt, R. P. et.al (1969)[1] Sabnis ,S.D. etall[6] reported vegetation and flora of Khedbrahma region., Shah, G. L.et all[10] published the addition of Flora of North Gujarat.

STUDY AREA:

The geographical situation of the Gandhinagar district is between 23° 21' North latitude and 72° 63' East longitude. Sabarmati river is main river passing across the district, It originates from Arvalli hills, in Rajasthan State and finally enters into the Gulf of Khambhat (Cambay) ,Gujarat state. [5]

MATERIAL AND METHODS

The study of Tiliaceae family from the Sabarmati river of Gujarat, on the results obtained from exploration of the vegetation of an area. Field survey was carried out during doctorate research work and continued after completion of research work.I often Observe and collect the plant species. Identification of plant species during field work was done by compiling different available Flora[2][3][4][11] and authenticated by experts from University department and research institutes. The collected plants data were categorized according to their Genera ,Scientific name, Vernacular name and Habit represent in description, and also describe morphology and economic values.

RESULT:

TILIACEAE

Key to Genera

1. Petal usually foveolate or glandular at the base

2. Fruit without prickles... ... ... *Grewia*

2. Fruits with prickles... ... ... *Triumfetta*

1. Petal not faveolate or glandular at the base... ... ... *Corchorus*

***Corchorus* L.** **Key to species**

1.Capsule depressed.globose,without beak..... .....***C. capsularis* L.**

2. Capsule 3 cm or more long :

3. Capsule glabrous ,cylindric , stout ..... ***C. olitorius*** L.

3. Capsule scabrous , slender ... . ***C.trilocularis*** L.Mant

2. Capsule under 3 cm long :

3. Capsule stout , winged...***C . aestunes*** L.

3. Capsule glabrous... ... ***C . depressus*** (L.)Stocks.

3. Capsule pubescent,3 valved ,erect ... .***C .fascicularis*** Lam.

1. *Corchorus aestuans* L. (chh-dhari Chhunchh)

An annual prostrate or diffuse herbs ; leaves ovate, acute, serrate, appendages present petiolate, lanceolate; flowers small, yellow, solitary or 2-3-fascicled, extra-axillary or leaf-opposed cymes ; capsule long, 3-winged; beak 3-fid tips, each; seeds brownish-black, angular. **Fls. & Frs**. : Aug.-Feb. common in plains.

2. *Corchorus capsularis* L. (Bor Chhunchh)

An annual erect herbs ; leaves ovate-lanceolate, acute, serrate, appendages present petiolate, glabrous; flowers small, yellow, solitary or 2-3-fascicled, extra-axillary or leaf-opposed cymes ; capsule 1 cm. long, 3-winged; seeds brownish-black, angular. **Fls. & Frs**. : Aug.-Feb. common in plains.

3. *Corchorus depressus* (L.)Stocks.(Ubhi bahufali)

Perrenial erect herbs ; leaves oblong, petiolate, glabrous; flowers small, yellow, solitary ,numerous ; capsule 1 cm. long, 4-walved, seeds trigonous. **Fls. & Frs**. : Aug.-Feb. common in plains.

4. *Corchorus fascicularis* Lam. (Bahuphali)

A diffuse herbs, branch erect or prostrate; leaves elliptic oblong or obovate; flowers yellow in axillary opposed sessile cymes; capsules long pubescent, shortly beaked ; seeds angular, black, smooth **Fls. & Frs.** : Sep.- Nov. Common, on the waste places and drying moist ground.

5. *Corchorus olitorius* L. (Moti chhunchh)

An annual erect, glabrous ,tall undershrubs ; leaves acute, lanceolate, serrate, rounded at base, filiform appendage one on each side on base, stipules triangular. ; flowers yellow, solitary ; capsule long, cylindrical, erect, beaked, 5-valved, axillary or extra-axillary ; seeds angular, blackish-brown, smooth, glabrous. **Fls. & Frs**. : Aug.-Nov. Common , in plain open area.

6. *Corchorus trilocularis* L. (Kadvi chhunchh)

An annual or perennial, hairy herbs ; leaves ovate oblong, elliptic oblong , glabrous ; flowers yellow solitary or 2-3 fascicled in leaf opposed, axillary or extra axillary infloresce ; capsules straight or slightly curved, glabrous ; seeds black, trigonous, **Fls. & Frs**. : Aug.-Feb. Not common, found on sandy field of river.

Grewia **L.** **Key to Species**

1. Leaves hoary tomentose beneath

2. Shrubs, leaves 3 nerved from the base... ... ... *G. damine*

2. Trees, leaves 5-6 nerved fom the base... ... ... *G. tiliaefolia*

1. Leaves not hoary tomentose beneath

2. Flowers white... ***G. tenax***

2. Flowers yellow... ***G. flavescens***

7. *Grewia salvifolia* Heyne**.** (Sisoti)

Shrubs, appressed tomentose in younger parts ; leaves ovate oblong or ovate lanceolate; flowers yellow, few in axillary umbellate cymes ; fruit a drupe, deep red to yellowish when ripe.**Fls**. : Jan.-July **Frs**. : Jan.-Oct. in the undergrowth riverside vegetation.

8. *Grewia flavescens* Juss. (Khatkhati)

A tall shrubs, with tomentose hairy branches; leaves thinly appressed pubscent, flowers yellow in axillary, pedunculate, umbellate cymes; Drupes globose, smooth, glabrous, oranged coloured when ripe. **Fls.** : Aug.-Oct. **Frs**. : Sep.-Nov. , common riverside vegetation undergrowth.

9. *Grewia tenax* (Forsk.) (Gangeti)

A tall straggling shrubs ; leaves broadly-ovate or suborbicular, acute, dentate, base rounded , stipules small, linear, hairy beneath ; flowers white, peduncle solitary, leaf opposed, bracts 2, near the middle of pedicel ; Drupes 1-1.5cm, smooth, orange-yellow, glabrous.**Fls.** : July-Oct. **Frs**. : Aug.-Jan. common in hedges and in riverbank .

10. *Grewia tiliaefolia* Vahl. (Dhaman)

A tall trees bark light brown rough, excorticating in irregular patches. Leaves broadly ovate oblong, Stellately pubscent above, hoary tomentose beneath. Flowers yellow in axillary or in extra axillary cymes. Fruit a drupe, globose, minutely hairy. **Fls**. : Mar.-June.**Frs.** : Apr.-July Not common , occasional in the riverbank area

Triumfetta **L.** **Key to Species**

1. Lower leaves more-less 3-5 lobed,stamens 8-15... ***T. rhomboidea***

1. Leaves orbicular, stamens 15-20... ... ... ***T. rotundifolia***

11. *Triumfetta rhomboidea* Jacq. (Zipti)

A tall under shrubs ; leaves stellate hairy; flowers regular, bright-yellow; fruit glabrous densely hairy.**Fls. :** July-Oct. **Frs**. : Aug.-Sep. common, found in plain open area in sandy soil.

12. *Triumfetta rotundifolia* Lam. (Zipto)

Erect, hairy herbs. Leaves variable, upper simple, lower 3-5 lobed, serrate, hairy, base cordate. Flowers yellow, in 10-20 cm long, terminal and leaf opposed cymes. Fruit capsule ovate or globose indehiscent, hooked, spiny without hairs. Seeds few, reddish-brown, smooth, glabrous.

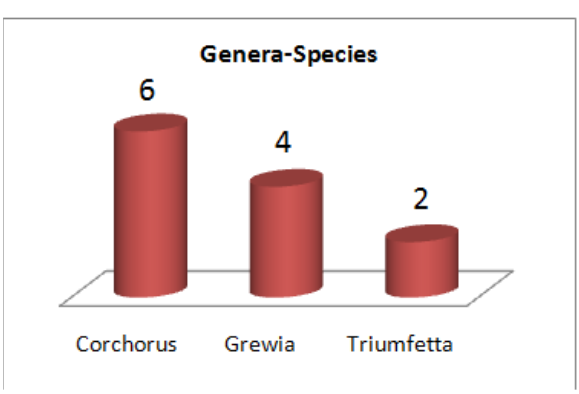
Fls. : July-Nov.**Frs.** : Aug.-Dec. also the road sides.

Table:1 : Plant list Data
(H-Herb,S-Shrub,T-Tree,Us-Undershrub,W-Wild,C-Cultivated)

Sr.	Botanical Name	Local Name	Habit	W/C
1	***Corchorus aestuans*** **L.**	Chhdhari Chhunch	H	W
2	***Corchorus capsularis*** **L.**	Bor chhunch	H	W
3	***Corchorus dipressus*** **Lam.**	Bahuphali	H	W
4	***Corchorus fascicularis*** **Lam.**	Ubhi bahuphali	H	W
5	***Cochorus olitorious*** **L.**	Moti chhunch	H	W
6	***Corchorus trilocularis*** **L.**	Kadvi chhunch	H	W
7	***Grewia salvifolia*** **Heyne.**	Sisoti	S	W
8	***Grewia flavescens*** **Juss**	Khatakhati	S	W
9	***Grewia tenax*** **(Forsk.) Fiori.**	Gangeti	S	W
10	***Grewia tiliaefolia*** **Vahl.**	Dhaman	T	W
11	***Triumfetta rhomboidea*** **Jacq**	Zipti	Us	W
12	***Triumfetta rotundifolia*** **Lam.**	Zipto	H	W

Table:2 : Genus-species

FAMILY	TILIACEAE
Genus	3
Species	12



Graph-1 : Genus-species

DISCUSSION & CONCLUSION:

The analysis of the plant species in the area give the result that the total 12 species belong to 03 genera of the family Tiliaceae including naturalized and indigenous plants. The

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dominance of the plant species presence of habit like herbs . Most of the species as weeds in this study area ,These are all wild species found in the area and most of ***Chorchorus*** sp. Grown as ephemerals during Monsoon.Row fruit of Gangeti, Si-soti and Dhamani , Moti chhunchh and Chh-dhari chhunchh are edible, Most of the species having ethnobotanical values.

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