



Acanthaceae Family Plant Species As Riparian Vegetation from Gandhinagar District, Gujarat State , India.

Bharat B. Maitreya

Sir P.P. Institute of science, Maharaja Krishnakumarsinhji Bhavnagar University, Bhavnagar

ABSTRACT

Vegetation in riverbed commonly referred to as the Riparian riverain vegetation. This research paper deals with observation, Collection and compile a data of family Acanthaceae plant species from Sabarmati river passing through Gandhinagar district of Gujarat state, India. Plant species of family Acanthaceae from Sabarmati riverbed –riverside area, have been listed systematically which counts 14 species of 08 genera, These plant species grown mostly as wild, and known as weed plants.

KEYWORDS

Amaranthaceae, Gandhinagar.

INTRODUCTION

The word "Riparian- riverain" itself means along the river margin and in riverbed. Plant Communities seen along the river margins are commonly referred to as the riparian vegetation and in riverbed commonly referred to as the riverain vegetation. Usually altitude, total rainfall, duration of rainy season, wind, and temperature along with soil characteristics influenced by climatic factors determine the nature of plant communities. In all the cases water availability, humidity becomes a critical factor. Because of this reason the riparian- riverain zone is a unique system. The riparian- riverain wetlands are those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstance do support a prevalence of vegetation typically adapted for life in saturated soil conditions.

The family Acanthaceae is a large flowering plant family, the plant of Acanthaceae are distinguished by a number of characters, the presence and development of floral bracts and bracteoles. Bilabiate corolla associated bilocular ovary, the generally bivalvate elastically dehiscent capsules. The family is of little economic importance. Species of a few genus, mostly tropical, are cultivated as ornamentals. Earlier, Shah, G. L. (1978) published the flora of Gujarat State. Earlier many research workers explore the North Gujarat region but not much explore the river Sabarmati.

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.

MATERIAL AND METHODS

The study of family Acanthaceae of angiosperms from the Sabarmati river is based on the extensive and intensive field survey of the vegetation of an area. Field survey was carried out for observation and collection of plants in various seasons. Field study visit made for Six (2010-2015) years after long back completed after Ph.D. research work and recollect the data of plants. The enumerated plants were categorized according to their systematic positions on the levels of family, genera and species, followed by Bentham & Hookers classification system. The list of plant species with their Scientific name, Vernacular name and Habit present in description

Sr.	Name of Species	Local Name	Habit
1	<i>Adhatoda vasica</i> (L.) Nees.	Ardushi	Shrub
2	<i>Andrographis echinoides</i> (L.) Nees.	Kariyatu	Herb

Sr.	Name of Species	Local Name	Habit
3	<i>Barleria prionitis</i> L.	PiloKantasheliyo"	Herb
4	<i>Blepharis maderaspatensis</i> (L.) Roth	Untigan	Herb
5	<i>Hemigraphis crenata</i> Bth.ex Hohenack)		Herb
6	<i>Elytraria acaulis</i> (L.f.) Lindau		Herb
7	<i>Hygrophila auriculata</i> (Schum.) Heine	Kanta shuliyo	Herb
8	<i>Justicia procumbens</i> L.	Justicia	Herb
9	<i>Lepidagathis trinervis</i> Wall.	Harancharo	Herb
10	<i>Neuracanthus sphaerostachyus</i> (Nees)z. Ganthera		Herb
11	<i>Peristrophe bicalyculata</i> (Retz.)	Kali Anghedi	Herb
12	<i>Dipterocanthus patula</i> Jacq.	Chamardi	Herb
13	<i>Thumbergia erecta</i> Bth.	Mohan	Herb

RESULT:

The list of collected plants is given in Table-1. Identification keys for Genera and Species described. The keys to the genera and species were made mainly on the basis of morphological characters. With nomenclature and enumeration, brief descriptions of each species, flowering and fruiting period, local names and short information on economic uses wherever available are mentioned. Simple dichotomous keys to species under each genus are provided for identification. Descriptions of the genera are not given separately

1. *Adhatoda vasica* (L.) (Ardusi)

Perennial evergreen, bushy shrubs or herbs. Leaves petiolate, entire, acute, elliptic-lanceolate and glabrous. Flowers white in 2-lipped, capsule pubescent, 4-seeded. **Fls.** : Dec.- June . cultivated for ayurvedic medicine.

2. *Andrographis echinoides* (L.)

Annual patently hairy herbs. Leaves linear-oblong or elliptic oblong, acute, petiolate and hairy. Flowers 1-1.2cm across, white with purple dots within, in 4-4.5cm long axillary or terminal racemes. Capsule elliptic-lanceolate, hairy. Seeds numerous oblong pale-blackish brown. **Fls. & Frs.** : Aug.-Feb. Common in the riverside garden.

3. *Barleria prionitis* L. (Pilo kantashelio)

Annual herb spreading stem. Leaves pedicellate, narrowly to broadly elliptic-lanceolate, entire, hairy beneath. Flowers yellow, pedicellate, in axillary or in terminal, 2.5-10.5cm long spikes. Capsules brown, glabrescent, beaked. Seeds orbicular,

compressed, and hairy. Fls. : Sep.-Feb. Frs. : Oct.-Mar. Not common, found in the plain open area.

4. *Blepharis maderaspatensis* (L.) (Utangan)

Annual, prostrate herbs. Leaves whorled, 4 at each node, broadly elliptic-lanceolate, petiolate, membranous, acute ; flowers irregular, two lipped, creamy-white with red or purple veins or pale blue ; C fruit capsule 2 seeded, brown, ovoid, glabrous, shining, echinate. Fls. & Frs. : Oct.-Feb. Commonly found with grasses.

5. *Hemigraphis latebrosa* (Heyne ex Roth)

Slender erect herbs. Leaves, ovate, membranous ; flowers irregular, two lipped, white with purple blue mouth ; fruit capsule linear , oblong.

Fls. & Frs. : Oct.-Feb. Throughout , found in hedges ..

6. *Elytraria acaulis* (L. f.)

Annual much branched herb. Leaves petiolate, obovate or oblanceolate, glabrous but hairy on nerves beneath. Flowers white, in 3-24cm long, simple, rarely branched spikes. Capsules ovoid, acute.

Fls. & Frs. : July-Nov. Common , found in shaded spot, mostly under the trees.

7. *Hygrophila auriculata* (Schum.) (Akharo)

Aquatic 30-60cm tall, annual, armed, hairy, herbs with dark-brown bark. Leaves elliptic-lanceolate, hispid, sessile. Flowers bluish-purple. Capsules 4 to 8 seeded, linear-oblong, pointed, glabrous. Seeds dark-brown, hairy, spherical shaped.

Fls. & Frs. : Sep.-Mar. Common, found in river bank area , in the damp places.

8. *Justicia procumbens* L. (Khadselio)

Annual slender, suberect or diffuse herbs. Leaves petiolate, acute, hairy, ovate or elliptic. Flowers bright-rosy-purple in terminal spikes. Capsules glabrous, oblong. Seeds nearly spherical shaped.

Fls. & Frs. : July-Dec. . Common among grasses.

10. *Lepidagathis trinervis* Wall.ex (Harancharo)

Diffuse, perennial herb, with slender, erect or diffuse branches. Leaves glabrous, with small petiolate or nearly sessile, linear-lanceolate, acute, hairy. Flowers bluish to purple in spikes. Capsules ovoid-lanceolate, compressed. Seeds brown, smooth, hairy. Fls. & Frs. : Aug.-Apr. Common in the plain ground in riverbed.

11. *Neuracanthus sphaerostachyus* (Nees)(Ganthera)

Annual erect, hairy simple or branched herbs. Leaves simple, entire, pedicellate, hairy elliptic-oblong, obovate-oblong or

ovate-oblong. Flowers blue or bluish-purple, in globose or cylindrical, axillary spikes. Capsules glabrous, linear. Seeds small, orbicular and densely silky. Fls. & Frs. : Aug.-Jan. Occasional .

12. *Peristrophe bicalyculata* (Retz.) (Kali anghedi) Nees

Annual erect herbs with 4-6 angled much spreading branches. Leaves entire, hairy, acute, entire, pedicellate, lanceolate, ovate or elliptic-ovate. Flowers pink, twolipped in axillary and terminal panicles branched. Capsules pale to almost black, 4-seeded, pubescent in upper half, small beaked. Seeds small, orbicular, minutely hairy. Fls. & Frs. : Oct.-Apr. common found in hedges.

13. *Dipterocanthus patulus* (Jacq) (Dhramandhrokali)

A sub-erect herbs . Leaves, ovate or ovate- oblong. Flowers pale violet, twolipped in axillary or solitary terminal panicles branched. Fruit capsules clavateed, pubescent in upper half, small beaked. Seeds small, minutely hairy. Fls. & Frs. : Throughout . common found in hedges.

14. *Thunbergia erecta* (Bth.) (Mohan)

T . Anders . in . Journ. Linn . Soc. 7 :18 : 1864 , FBP 2 : 418 ; FGS 1: 556 ; FOS 2 : 197 ; BBM 534

An erect shrub. Leaves simple, entire, pedicellate, elliptic-oblong. Flowers blue or bluish-purple, axillary , solitary pedunculate. Fls. & Frs. : Aug.-Jan. Planted in the garden as ornamental plant .

Family	Genus	Species
Amaranthaceae	08	14

DISCUSSION & CONCLUSION:

The analysis of the plant species in the area give the result that the total 14 species belong to 08 genera of the family Amaranthaceae including naturalized and indigenous plants. The dominance of the plant species presence of habit like herbs . Most of the species as weeds in this study area.

ACKNOWLEDGEMENT:

I am very thankful to the earlier research investigators and local people who give me their information regarding to some plant species in the study sites, I am thankful to my Ph.D Research Guide Dr.D.C.Bhatt for constant approach for plant exploration and research investigation. I am also thankful to my Principal and head of department of Institute for giving me opportunity to done my work.

REFERENCES

- [1] Bhatt, R. P. and Bedi S. J. (1969) : A study of the vegetation and flora of Khedbrahma region of North Gujarat. BSI, India 11:311-321. | [2] Cooke, Th. (1958) : The flora of Bombay Presidency, Calcutta (reprinted), Vol. I-III. | [3] Dixit, S.C. (1940) A list of plants collected from the riverbed at Malsar Ibad. 2 :254 , 1940. | [4] Hooker , J. D. (1872-1896) : The flora of British India. Vol 1 – VII Reeve 7 Co. Kent. England | [5] Maitreya, B.B. (2006) : Floristic study of Sabarmati river Ph.D. Thesis, Bhavnagar University, Bhavnagar. | [6] Saxton, W. T. and Sedgwick L. J. (1918) : Plants of Northern Gujarat, Bot. Surv. India, 6(7):209-323 and i-xiii. | [7] Shah, G. L. (1978) : The flora of Gujarat State. Part I and II, Sardar Patel University. p. –1074 | [8] Shah, G. L. and Yogi D. V. (1971) : Additions to the flora of Northern Gujarat (Ahmedabad, Mehsana and Sabarkantha Districts) Journ. Bombay Nat. Hist. Soc. 71(1): 58-63. | [9] Subramanyam, K. (1962): Aquatic | angiosperms botanical monograph No. 3 Council of scientific & Industrial Research , New Delhi | [10] Vaidya , B.S. & Vora , A. B. (1964) : Some new records for Ahmedabad J. Guj. Univ. 7: 193-196.