

# Climbers of Valsad Taluka (Gujarat) India

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**Abstract-** *The present research work of climbers of Valsad taluka. Total 21 families belonging 45 genera and 61 species. Cucurbitaceae, Fabaceae, Convolvulaceae are the dominant families of Climbers in Valsad taluka. The Climbers are usually annuals but some are perennials. Climbers comprise a large and important sector of ornamental horticulture and agriculture. They also play very important role in medicine, edible, and multiple purposes as well of as economic value. Lists of the Botanical names, Families, Common name, Mode of Climbing were given in present paper.*

**Keywords-** Valsad taluka, Climbers.

## I. INTRODUCTION

Climbing plants are one of the most interesting group and these climbers contribute mainly to the attraction of our landscapes by the manner in which they climb over trees, shrubs, hedgerows or rocks. Climbers are the plants that germinate on storey and grow for part of their life by winding ground, anchoring or adhering to other plants (Jongkind and Hawthorne, 2005). They rely on other plants for mechanical support. Due to their weak stem, they attach themselves to any neighboring object by means of some special organs of attachment.

They show great diversity in their climbing mechanism depending on which they are classified as root climbers, hook climbers, tendril climbers, leaf or stem climbers or twinners. They vie with trees for both above and below ground resources significantly decreasing the growth rates retarding renewal of tree seedlings and sprout. Climbing habit is a wonderful example of measure of nature. It allocates a plant to attain maximum exposure to sunlight, water and nutrients with minimum expense in vegetation support.

They occur in all forested ecosystem of world although high climbers play important ecological role in forest ecosystem dynamics and functioning. They add sustainability to awning closure after tree fall and help to stabilize the microclimate underneath. Climbers also form a necessary part of diet of many animals in times of shortage of flowers and fruits.

Climbers comprise a large and important sector of ornamental horticulture. Some play in very important role in medicine and agriculture. Besides, if left uncontrolled some climbers can block drain pipes, gutters on buildings while some can do serious damage to structure or tree them are adhering to. In spite of many roles climbers play in ecosystem, as medicines in horticulture and agriculture. Not much attention has been paid to them, only a few studies are carried out on climbers.

Valsad taluka is most famous for its natural looking mountains such as Parnera hills and Dungari hills. Parnera is home to the very scenic and beautiful mountains (triangle shape) two useful rivers Auranga and Parnadi are associated with the Valsad taluka. The Arabian Sea locate in the west side of Valsad taluka.

It is a region which has become hub for mango and Chikoo farming and processing. It also has a very strong network of rice cultivation, dairy and seasonal vegetable producing and marketing.

In India, Pandey et al.(2005) studied many climbers in their study of medicinal flora of Gujarat while 81 climbers were recorded by M.S.Jangid and Sharma(2011) in Taluka Modasa district Sabarkantha of Gujarat. Shah G.L(1978) published the flora of Gujarat. Bhatt M.P (1987) A contribution to the Flora of Navsari area with Special reference. Patel R.M (1971) The Flora of Bulsar and its environs. More P.G.(1972) A contribution to the Flora of Parnera hills, Pardi and Udwada areas in south Gujarat. Reddy A.S (1987) Flora of Dharampur Forest. V.H.Rao(2012) A Floristic and Ethanobotanical survey of Kaparada(Hilly) and Umbergaon(Coastal) Talukas of Valsad district. More P.G.(1972) A contribution to the Flora of Parnera hills, Pardi and Udwada areas in south Gujarat. Bor and Raizada(1954) published a book 'some beautiful Indian climbers and Shrubs' with a series of papers appeared in the Journal of Bombay Natural History Society. No comprehensive work is available for climbers in the study area. Therefore, the objective of the present study was to document the climbers of Valsad(Gujarat).

## II. STUDY AREA

Valsad district of South Gujarat is situated in heavy rainfall zone (average rainfall 2000 mm) so it is having good biodiversity. This district is having five talukas-Valsad, Pardi, Dharampur, Kaprada and Umbergaon. Valsad taluka is located at 20.45°N 73.00°E.

The city center is about 4 km inland from the Arabian Sea. This city's longitude and latitude are 72.93 and 20.60 respectively. According to the 2011 India census, total population of Valsad taluka has 3,85,159 where male are 1,98,084 and female are 1,87,095. Valsad taluka is well known for its production of mangoes, sapodilla and teak.

The climate of this area is the subtropical type. The atmosphere during the most part of the year is hot and humid. The minimum temperature ranges from 7.5 C° to 24.0 C° and the most temperature where is between 34.0 C° to 43.5 C°.

The soil is several feet deep and rich in organic matter. The black cotton soils are visible in the plains area of this taluka, the drainage is poor and the soil deeply cracks in the dry season. The average depth of water from ground level is about 20-50 feet. The P<sup>H</sup> of soil range between 7.28 to 8.20.

## III. MATERIAL AND METHODS

The present study was undertaken during year 2015 to 2017. The periodical trips were undertaken to the different parts of the study area to get information and collect the plants. The plant images are in camera and samples were correctly identified by usual taxonomic methods and species names given in the Gujarat as well as Bombay flora.

## IV. RESULTS AND DISCUSSION

During present work, total 61 species of Climbers belonging to 45 genera and 21 Families were recorded. Table-1 provides the list of the plant species [Column-2], Family [Column-3], Local name [Column-4], Mode of Climbing [Column-5]. In dicot Cucurbitaceae and family represented the highest number of genera and species (13 species).

## V. CONCLUSION

Total 61 Climber species under 45 genera and 21 families are recorded. The major families are found to be Cucurbitaceae, Fabaceae, Convolvulaceae. Some of the common climbers of this area are *Coculus hirsutus* (L.), *Abrus precatorius* (L.), *Dolichos falcatus* (L.), *Mucuna pruriens* L.(DC), *Cucumis sativus* (L.), *Momordica charantia* (L.), *Cuscuta chinensis* Lam., *Dendrophthoe falcata* (Mart). This information will be helpful for the taxonomists and pharmacologist for the collection and identification of the plant species for further research work.

## VI. ACKNOWLEDGEMENT

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**Table-01. Recorded climber plants during field trip in Valsad taluka (Year 2015-2017)**

Sr. No	Botanical Name	Family	Vernacular Name	Mode of Climbing
1	<i>Clematis gouriana</i> Roxb.ex DC.	Ranunculaceae	Morvel	TLC
2	<i>Clematis hedysarifolia</i> DC.	Ranunculaceae	Morvel	TLC
3	<i>Cissampelos pareira</i> L.Var.	Menispermaceae	Venivel	TC
4	<i>Coculus hirsutus</i> L.	Menispermaceae	Vevadi	TC
5	<i>Coculus pandulus</i> (Forst.)	Menispermaceae	Valur	TC
6	<i>Tinospora cordifolia</i> (Willd.) Hook & Thoms.	Menispermaceae	Galo	WC
7	<i>Hiptage benghalensis</i> (L.) Kurz.	Malphiagiaceae	Madhvilata	WC
8	<i>Ventilago denticulate</i> Willd.	Rhamnaceae	Kanvel	HC
9	<i>Cayratia carnosa</i> (Lam.) Gangnep.	Vitaceae	Khat khatumbo	TLC
10	<i>Cissus quadrangularis</i> L.	Vitaceae	Had Sankal	TLC

11	<i>Cissus rependa</i> Vahl.	Vitaceae	Gandavelo	TLC
12	<i>Vitis vinifera</i> L.	Vitaceae	Draksh	TC
13	<i>Cardiospermum halicacabum</i> L.	Sapindaceae	Kagdolio	TC
14	<i>Abrus precatorius</i> L.	Fabaceae	Chanothi	WC
15	<i>Canavalia gladiata</i> (Jacq.)	Fabaceae	Abbo	TC
16	<i>Clitoria ternacea</i> L.	Fabaceae	Kali gay	TLC
17	<i>Dalbergia volubilis</i> Roxb.	Fabaceae	Nisoti	TC
18	<i>Dolichos falcatus</i> L.	Fabaceae	Valor	TC
19	<i>Lablab purpureus</i> (L.) Sweet.	Fabaceae	Val-Papdi	TC
20	<i>Mucuna pruriens</i> L. (DC)	Fabaceae	Kawach	HC
21	<i>Pisum sativum</i> L.	Fabaceae	Vatana	TC
22	<i>Teramnus labialis</i> L. Spreng.	Fabaceae	Valiyo velo	TC
23	<i>Combretum albidum</i> Loefl.	Combretaceae	Madhvel	WC
24	<i>Passiflora edulis</i> Sims.	Passifloraceae	Krishna Kamal	TLC
25	<i>Citrullus colocynthis</i> (L.) Schard.	Cucurbitaceae	Indravama	TLC
26	<i>Citrullus lanatus</i> Schard.	Cucurbitaceae	Tarbuch	PC
27	<i>Coccinia grandis</i> (L.) Voigt.Hort.	Cucurbitaceae	Tindora	TC
28	<i>Cucumis melo</i> L.	Cucurbitaceae		PC
29	<i>Cucumis sativus</i> L.	Cucurbitaceae	Kakadi	PC
30	<i>Cucurbita maxima</i> Duch.	Cucurbitaceae	Kolu	PC
31	<i>Lagenaria siceraria</i> Molin.	Cucurbitaceae	Dudhi	TLC
32	<i>Luffa acutangula</i> (L.) Roxb	Cucurbitaceae	Turiya	TLC
33	<i>Luffa cylindrica</i> Roxb.	Cucurbitaceae	Galka	TC
34	<i>Momordica charantia</i> L.	Cucurbitaceae	Karela	TLC
35	<i>Momordica dioica</i> Roxb.	Cucurbitaceae	Kantola	HC
36	<i>Trichosanthes cucumerina</i> L.	Cucurbitaceae	Jungali Parval	TC
37	<i>Trichosanthes dioica</i> Roxb.	Cucurbitaceae	Parval	TC
38	<i>Jasminum flexile</i> Vahl. Symb.	Oleaceae	Jui	TC
39	<i>Jasminum officinale</i> L.	Oleaceae	Chameli	TC
40	<i>Gymnema sylvestre</i> (Retz.) Schult.	Asclepiadaceae	Madhunasini	WC
41	<i>Laptenedia reticulata</i> Retz.	Asclepiadaceae	Nani Dodi	TC
42	<i>Oxystelma esculentum</i> R.Br.	Asclepiadaceae	Jal Dudhi	TC
43	<i>Tylophora indica</i> (Burm.f) Merrill.	Asclepiadaceae	Damvel	WC
44	<i>Ipomea aquatic</i> Forsk.	Convolvulaceae	Naravel	TC
45	<i>Ipomea cairica</i> (L.) Sw.	Convolvulaceae	Gandi Vel	TC
46	<i>Ipomea hederifolia</i> L.	Convolvulaceae		TC
47	<i>Ipomea obscura</i> L.	Convolvulaceae		TC
48	<i>Merremia gangetica</i> (L.) Cufod.	Convolvulaceae	Underkani	TC
49	<i>Operculina turpenthum</i> S.Manso	Convolvulaceae		TC
50	<i>Cuscuta chinensis</i> Lam.	Cuscutaceae	Amarvel	RC
51	<i>Cuscuta reflexa</i> Roxb.	Cuscutaceae	Amarvel	TC
52	<i>Antigonon leptopus</i> H.& Arn.	Polygonaceae	IceCream Vel	TLC
53	<i>Aristolochia bracteolata</i> Lam.	Aristolocaceae	Kidamari	TC
54	<i>Piper betel</i> L.	Piperaceae	Nagarvel	WC
55	<i>Piper longum</i> L.	Piperaceae	Lindi piper	WC
56	<i>Dendrophthoe falcata</i> Mart.	Loranthaceae	Vando	TC
57	<i>Dioscorea alata</i> L.	Dioscoraceae	Ratanu	PC

58	<i>Dioscora bulbifera</i> L.	Dioscoraceae	Dukkar Kand	PC
59	<i>Asparagus recemosus</i> Willd.	Liliaceae	Satavari	HC
60	<i>Gloriosa superba</i> L.	Liliaceae	Vachhnag	TLC
61	<i>Pothos scandens</i> L.	Araceae	Money plant	WC

TC- Twinning Climber, WC- Woody Climber, PC- Prostrate Climber, TLC- Tendril Climber, HC- Hook Climber, RC- Root Climber

**Table-02 Family wise Conclusion of Genus and Species.**

SR NO	FAMILY	NO. OF GENUS	NO. OF SPECIES
1	Ranunculaceae	1	2
2	Menispermaceae	3	4
3	Malphigiaceae	1	1
4	Rhamnaceae	1	1
5	Vitaceae	2	3
6	Sapindaceae	1	1
7	Fabaceae	9	9
8	Combretaceae	1	1
9	Passifloraceae	1	1
10	Cucurbitaceae	8	13
11	Oleaceae	1	2
12	Asclepiadaceae	4	4
13	Convolvulaceae	3	6
14	Cuscutaceae	1	2
15	Polygonaceae	1	1
16	Aristolocaceae	1	1
17	Piperaceae	1	2
18	Loranthaceae	1	1
19	Dioscoraceae	1	2
20	Liliaceae	2	2
21	Araceae	1	1

**TABLE NO.3 Dominant Families,genus and species.**

SR NO	DOMINANT FAMILY	NO. OF GENUS	NO.OF SPECIES
1	Cucurbitaceae	8	13
2	Fabaceae	9	9
3	Convolvulaceae	3	6

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