



DIVERSITY OF FAMILY CONVULVACEAE IN AMBEGAON TEHASIL DISTRICT PUNE (M.S) INDIA

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1. INTRODUCTION

FAMILY CONVULVACEAE Juss.

Herbs or shrubs often twining. Leaves alternate , petiolate , usually exstipulate. Flowers regular usually hermaphrodite , various in size and color , often showy , solitary or in pedunculate axillary bracteates cymes. Calyx free , often persistent , 5- partite , segments equal or unequal , usually distinct to the base , sometimes accrescent , corolla campanulate infundibuliform, or rotate , often plicate in bud , entire or shortly lobed , stamens 5 inserted in the corolla – tube opposite the sepals , anthers 2 celled, dorsified , linear or oblong , dehiscing longitudinally , ovary superior , 1- 4 celled , rarely with almost distinct carpels, ovules 2 less commonly 1 or 4 in each cell , style filiform , simple or forked , stigma capitate , 2 lobed / stigmas 2 , fruit capsular / indehiscent , or circumscissile or irregularly breaking up seeds as many as the ovules , albumen scanty , cotyledons usually broad and much folded obscure.

DISTRIBUTION – Throughout the world , more abundant in the warmer regions , genera 57 , species about 1600.

2. MATERIAL AND METHOD-

2.1 STUDY AREA-

The our present study area Ambegaon tehsil of Pune District. (M.S) This place is situated coordinate $19^{\circ}2'5''N$ $73^{\circ}50'11''E$

Geography & Climate

The Taluka lies at the foothills of eastern side of the Sahyadri Mountain range, and towards the west side of Pune city. It comes under Junnar sub-division forest range. The taluka's administrative limits are from the cities of Bhimashankar in North to Loni in its South and from Peth in East to Kalamb in its West direction. This taluka is geographically divided in two parts due to the patterns of rainfall. The northern region gets far less rainfall than mountainous southern side of the taluka. The rivers Ghodnadi, Bubra and Vellnadi flow through the area. This area has got one wildlife sanctuary known as Bhimashankar Wild Life Sanctuary, which has area **Area:** 131 km^2 (51 sq mi). Bhimashankar Wildlife Sanctuary's area is 131 km^2 (51 sq mi) and is a part of the [Western Ghats](#) (Sahyadri Ranges). It includes 9 tribal villages. The area's bio-diversity has been retained as it will be preserved as a cluster of [sacred groves](#) for generations.^[2] These sacred groves act as gene pools of this area, from where seeds were dispersed. In Ahupe - a tribal ([Mahadev Koli](#)) village's sacred grove.

Bhimashankar Wildlife Sanctuary was notified by the state government of Maharashtra in 1985 with the total area of is 130.78 sq. km. , under the [Wildlife Protection Act 1972](#). The sanctuary is situated on the crest of Western Ghats that is recognised as one of the 12-[biodiversity](#) hotspots of the world. The sanctuary harbours large diversity of [endemic](#) & specialised [flora](#) and [fauna](#). Sanctuary is home to the state animal of Maharashtra- *Ratufa indica elphistonii*, sub species of the [Indian Giant squirrel](#) that is one of three threatened Indo-Malyan squirrel species. During the monsoon (rainy season), various species of [mosses](#) and [epiphytes](#) including bioluminescent fungi can be seen on the trees.

Soil- Small stretches are spread in Ambegaon, Tehasil. Shallow, well drained, clayey soils on gentle sloping land with moderate erosion. Stretches are spread in Tahasil Ambegaon.

The soil of Tehasil classified into three major types.

- a) Clay Soil
- b) Loamy Soil.
- c) Sandy Soil

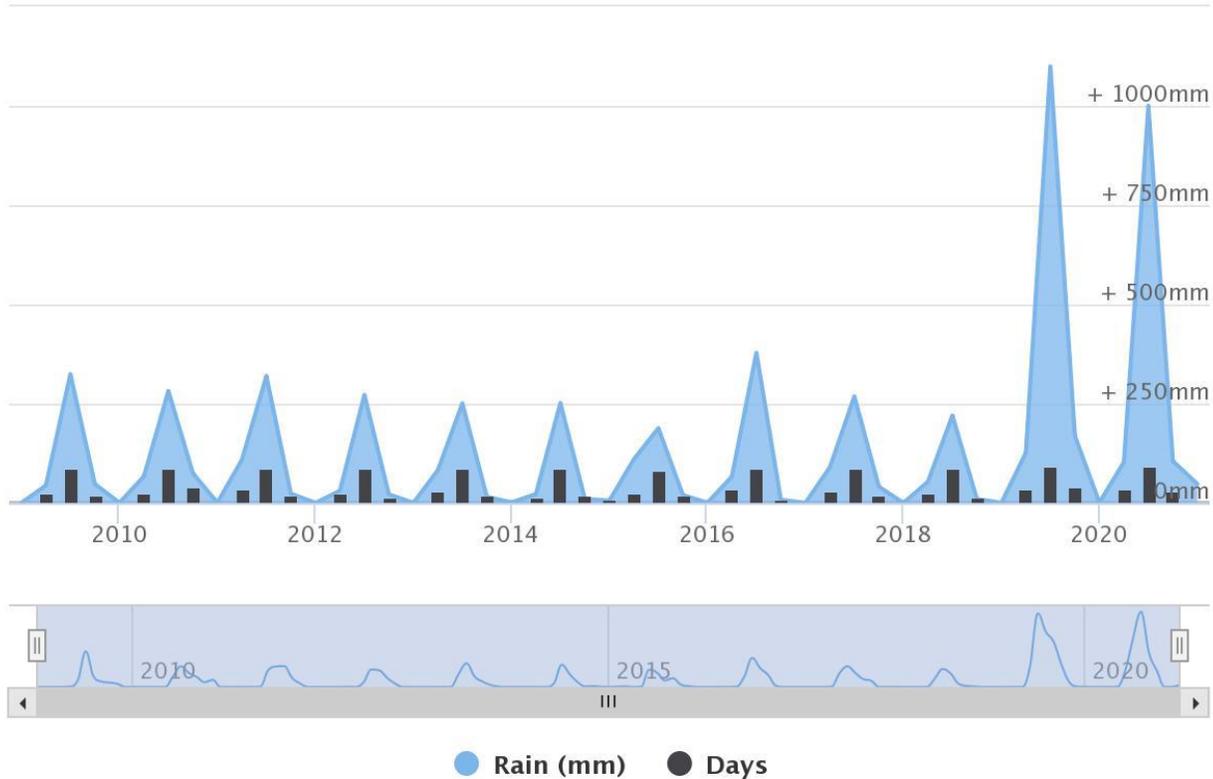
Clay soil is found along the banks of rivers Meena, Ghodnadi and Vellnadi. Loamy soil in the hilly areas, Sandy soil found at slopes of hills.

Rainfall – The precipitation in tehasil occurs through showers from the south west Mansoon from June to October. The annual average rainfall during the year 2020 – 2021 is received highest ie. +1000 mm.

Ambegaon

Average Rainfall Amount (mm) and Rainy Days

Zoom 1m 3m 6m YTD 1y **All**



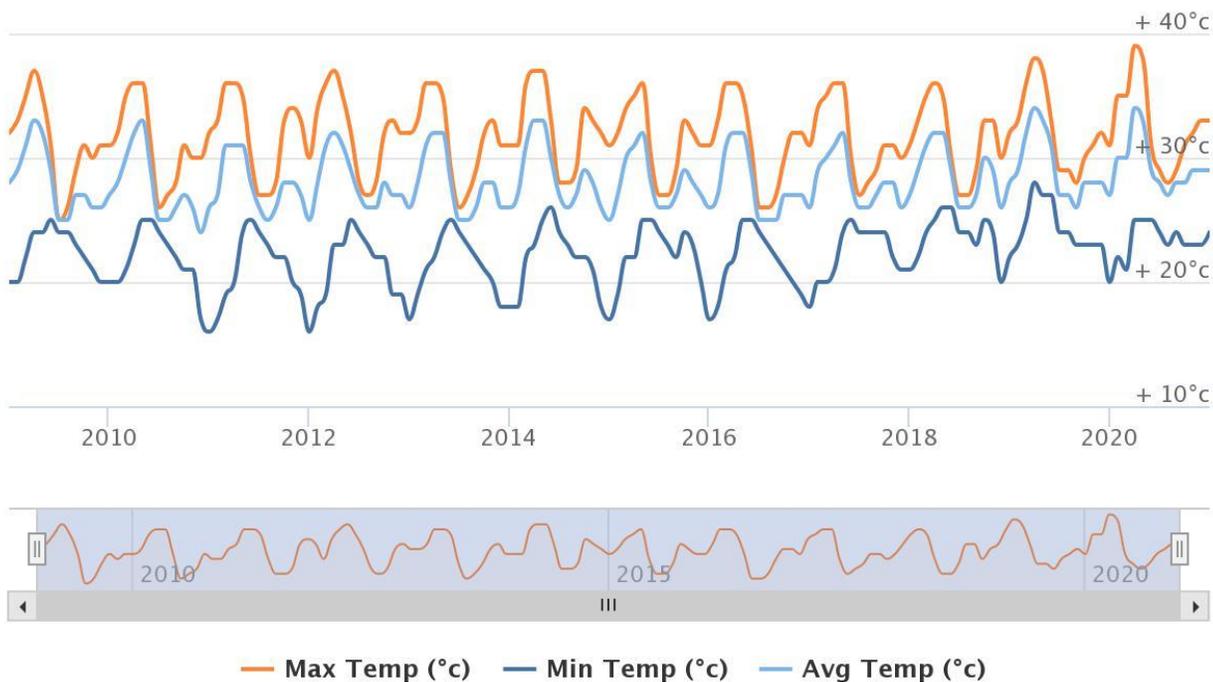
WorldWeatherOnline.com

Temperature – Maximum temperature reaches up to + 40 °C in summer while minimum goes down + 20 °C in winter.

Ambegaon

Max, Min and Average Temperature (°C)

Zoom 1m 3m 6m YTD 1y **All**



WorldWeatherOnline.com

Flora and fauna

Deciduous Forests cover area around Bhimashankar. The Forests in the area have trees like Teak, Oak, Mango, *Entada rheedii* which is largest woody climber. The forest inhabits animals like Rabbit, Deer, Wolf, Fox, Tiger and Leopards. Birds found in the area include Peacock, Bulbul, and Parrot. Bhimashankar Wildlife Sanctuary was created in the area in order to protect the habitat of the Indian Giant Squirrel. Its area is 131 km² (51 sq mi) and is a part of the Western Ghats (Sahyadri Ranges). This sanctuary was created in 1984 and includes 9 tribal villages. This area's biodiversity has been retained as it will be preserv as a cluster of sacred groves for generations. These sacred groves act as gene pool of this area, from where seeds were dispersed. Inside the Ahupe village's sacred grove in the sanctuary (where a tribe of Mahadev Koli resides) in 1984, a climber plant called Khombhal or *Xantolis tomentosa* was found to be 800–1000 years old.

2.2 METHODS OF STUDY –

The present work on ‘ DIVERSITY OF THE FAMILY CONVOLVULACEAE IN AMBEGAON TEHSIL DIST. PUNE (M.S) INDIA’ involves periodic field visits , Surveys and collection of plant material Samples , Preparation of Herbarium and plant photography and reference work. The checklist of plants of the region was prepared by consulting the Herbaria , Botanical Survey Of India Western circle (BSI) , Agarkar Herbarium of Maharashtra Association (AHMA) Pune. During the field survey wide range of habitat were visited frequently in Monsoon seasons. All Possible localities of the villages were traced and various habitats were explored. Attempts were made to survey habitats of the member of family Convolvulaceae such as river side , hill ranges , Marshy places Agricultural lands. Three to four specimens of each species were collected. While collecting the specimens , field notes such as habit, habitat , flower colour abundance , distribution , phonology and local name were recorded and field number was given to each specimen. Emphasis was given to record the ethno botanical uses of plants. The methodology used for Preparation of herbarium is as follows:

- a) Plants were collected in plastic bags. b)
- The collected specimens were individually pressed in between blotting papers or news papers. This help to remove the moisture content and to retain the morphological features.
- c) Small branches with flower and with fruits were collected ‘ d) In case of small herbs and grasses , the entire plants with flowers and fruit including underground portion were collected.
- e) Uniform pressure was applied through field press to develop moisture – free good specimens.
- f) The blotting papers were changed regularly once in a day to avoid fungal or insect attack.
- g) A solution of Mercuric Chloride $HgCl_2$ 1% & Alcohol 1 :100 ml was used for poisoning of the specimens as recommended by Jain and Rao (1977).
- h) The well pressed specimens were mounted on the herbarium sheets using an adhesive (Fevicol) and switching with threads. Botanical name , local name , morphology , and field note were entered on each herbarium sheet from field notebook with respective field number.
- i) The tag with field number was pasted on herbarium sheet. The Herbarium specimen prepared during the study have been deposited in the Department of Botany Annasaheb Awate , Arts, Commerce , And Hutatma Babu Genu Science College , Manchar Dist- Pune.

The Laboratory work mainly comprised of the preparation of Herbarium specimens and confirmation of there identity. The specimen were identified with the help of the Flora of the presidency of Bombay by Theodore cooke , vol II Botanical Survey of India published may 1904. Flora of Baramati by R.B. Bhagat (Agharkar Research Institute ARI) Pune. V. B. Shimpale , the new college Kolhapur. & R. B. Deshmukh , Sharadabai Pawar Mahila Mahavidyalay , Sharadanagar Baramati. Flora of Maharashtra State –Dicotyledons vol – 2 editors – N. P. Sing , P. Lakshminarasimahan , S. Karthikeyan & P. V . Prasanna. B. S. .Floristic diversity of Mulashi.

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3.RESULT AND DISSCUTION

Present work is the result of intensive and exhaustive explanation of the family Convolvulaceae in Ambegaon tehsil of Pune District , Maharashtra state India.

Ambegaon tehsil include 142 villages. In the present study during the period 2020-2021 the the survey was done for the study of plant diversity of the family Convolvulaceae. Diversity of genera , species and their medicinal importance are recorded. In the present study area we have explore 8 Genera and 19 respective species.

Total no of genera recorded in this area are 8 .

1. *Ipomoea*

2. *Evolvulus*

3. *Rivia*

4. *Argeria*

5. *Jacmontia*

6. *Merremia*

7. *Convolvulus*

8. *Operculina*

Total no of species are

• *Ipomoea* –

1. *I. hederifolia* L.

2. *I. carnea* sub . sps *fistulosa*

3. *I. cairica* (L.) (Palmata)

4. *I. parasitica* (Kunth) G. Don

5. *I. triloba* L.

6. *I. nill* (L.) Roth

7. *I. obscura* (L.) Kev. Gawi.

8. *I. batatas* (L.) Lam.

9. *I. aquatica* forsk

10. *I. quamoclit* I L.

11. *I. sinensis*. (Desv.)

12. *I. indica*.

- *Evolvulus*-
 1. *E. alsinoids*. Linn.
- *Rivia*
 1. *R. hypocrateriformis* Choisy.
- *Argyreia*
 1. *A. cuneata*. Ker- Gawl.
- *Jacquenonsia*
 1. *J. paniculata* Hiller. f.
- *Merremia*
 1. *M. vitifolia* Hallier. f.
 2. *M. pentaphylla* Hallier. f.
 3. *M. quinquefolia*. (L.) Hall. f.
- *Convolvulus*
 1. *C. arvensis* L.
- *Operculina*
 1. *O. turphetum* Silva . Manso.

Dominant genera recorded in this area are Ipomoea.

Rare genera recorded in the area are Jacmontia

Table- 1. Habit and Genera

Sr. No	Habit	No of Genera
1	Herb	1
2	Shrub	0
3	Tree	0
4	Climber	6
5	Parasite	0
6	Twiner	1

Table no -2 Habitat of Genera

Sr. No	Habitat	No of Genera
1	Terrestrial	6
2	Parasitic	1
3	Aquatic	1

Table No - 4 Distribution of genera.

Sr. No	Character	No of Genera
1	Wild	02
2	Weed	02
3	Parasite	01
4	Cultivated	01
5	Ornamental	02

Table No – 5 . List of Genera and Species .

Sr . No	Botanical Name	Local Name
1	<i>Ipomoea hederifolia</i>	Lal pungali
2	<i>Ipomoea carnea</i>	Besharam
3	<i>Ippmoea cairica</i>	Garvel
4	<i>Ipomoea parasitica</i>	Pungali
5	<i>Ipomoea triloba</i>	Aieaa morning glory
6	<i>Ipomoea nill</i>	Pungali
7	<i>Ipomoea obscura</i>	Pungali
8	<i>Ipomoea batatas</i>	Ratale
9	<i>Ipomoea aquatica</i>	Bhagi
10	<i>Ipomoea qumoclit</i>	Ganeshvel
11	<i>Ipomoea sinensis</i>	Salsa
12	<i>Ipomoea indica</i>	bineweed
13	<i>Evolvulus alsinoides</i>	Shankhapushpi
14	<i>Rivia hypocrateriformis</i>	Phanji
15	<i>Argyreia cuneata</i>	Mahalungi
16	<i>Jacqumontia paniculata</i>	-
17	<i>Merremia vitifolia</i>	Navali
18	<i>Merremia pentaphylla</i>	Navali
19	<i>Merremia quinquefolia</i>	Navali
20	<i>Convolvulus arvensis</i>	Garvel
21	<i>Operculina turphetum</i>	Dudhkalmi

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