

# Medicinal Importance of Some Plant of Family *Convolvulaceae* from Ambegaon Tehasil District-Pune (M.S) India

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## Research Article

### ABSTRACT

The Ambegaon Tehasil is well known by Bhimashankar Wild life Sanctuary that's why family has great importance in tribal medicine. This family member mostly used in Central Nervous System (CNS) Disorders. 54 *Convolvulaceae* species are suggested to treat CNS diseases and 46 species have been used in different disorders. The Seed of *Convolvulus* commonly used as tonic for liver and kidney in herbal medicine. 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.

### INTRODUCTION

Family *Convolvulaceae* is worldwide distributed but mostly extended in America and Asia. The families have 57 genera and more than 1650 species. Out of them 20 genera and 177 species found in India. The members of this family consist various secondary metabolites like Alkaloids, Flavonoids Tannin, Saponin, Glycosides and Phenolic compound. Due to that they have varied medicinal importance. The families also have antimicrobial and antifungal properties. Tribal people use the plants for to treat various diseases like Constipation, epilepsy cancer, hypertension, anxiety, snake bite. They use whole plant or Leaves or roots for preparing medicine. The Ambegaon Tehasil is well known by Bhimashankar Wild life Sanctuary that's why family has great importance in tribal medicine. This family member mostly used in Central Nervous System (CNS) Disorders. 54 *Convolvulaceae* species are suggested to treat CNS diseases and 46 species have been used in different disorders. The Seed of *Convolvulus* commonly used as tonic for liver and kidney in herbal medicine .Overall family have ethnobotanical value among tribal tehasil [1-3].

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## MATERIALS AND METHODS

### Study area

The present study area Ambegaon tehsil of Pune District. (M.S) This place is situated coordinate 19° 2'5"N 73° 50'11"E

### Geography and 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 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 Bhimashankar Wild Life Sanctuary, which has area Area: 131 km<sup>2</sup> (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. 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 in the sanctuary, in 1984, a climber Khombhal-*Xantolis tomentosa* was found to be 800–1000 years old [4,5].

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 and 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. The particular sub species found here is endemic to Bhimashankar. Important mammals reported from the sanctuary are carnivores like Leopard *Panthera pardus* [6-8].

## METHODOLOGY

The present work on 'Medicinal Importance of the Family *Convolvulaceae* among Tribal of in Ambegaon Tehsil District 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, and marshy places Agricultural lands [9,10]. 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 [11-13]. The methodology used for Preparation of herbarium is as follows:

- Plants were collected in plastic bags.
- 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.
- Small branches with flower and with fruits were collected
- In case of small herbs and grasses, the entire plants with flowers and fruit including underground portion were collected.
- Uniform pressure was applied through field press to develop moisture – free good specimens.
- The blotting papers were changed regularly once in a day to avoid fungal or insect attack.
- A solution of Mercuric Chloride HgCl<sub>2</sub> 1% and Alcohol 1:100 ml was used for poisoning of the specimens as recommended by Jain and Rao (1977).
- 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.
- 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. With the help of references we have listed medicinally important genera & species from the family *Convolvulaceae*.

## ENUMARATION

### *Ipomoea hederifolia* L.

**Fls and Frts:** August–November.

**Med:** *Ipomoea hederifolia* has been reported to possess oxytocic, anti-cancer, anti-psychotic, anti-inflammatory, anti-oxidant, and anti-microbial properties. (A. Pandurangan & Kavita Rana. Jan – Dec 2015)

***Ipomoea carenea subsp. fistulosa.***

**Fls and Frts:** Throughout year.

**Vern–**‘Besharam’

**Med:**

- Cuts and wounds: Leaf juice applied on cuts and paste on wounds till cure.
- Arthritic pain: Leaves warmed and wrapped over joints.
- *Literature:* Jain, 1991 (lf) cuts, wounds.

***Ipomoea cairica (L.). (Palmata).***

**Fls and Frts:** October–April

**Vern–**‘Garvel’

Cultivated in gardens for hedge purpose on wall. Also found on wild plants as a twiner.

**Uses:**

**Med:** \*Constipation: Fresh seeds 20-30 gm crushed in water and extract taken early morning.

***Ipomoea parasitica. (Kunth) G. Don.***

**Fls and Frts:** September–December.

**Note**–Occasional in hedges along roadsides.

**Med:** This plant used as diabetes, hypertension, dysentery, constipation, fatigue, arthritis, rheumatism, hydrocephaly, meningitis, kidney ailments and inflammations.

***Ipomoea triloba. L***

**Fls and Frts:** October–November.

**Med:** The plant is used as a poultice in the treatment against headaches.

A decoction of the leaves is used as a treatment against stomach ache

***Ipomoea nil (L.) Roth***

**Fls and Fruits:** September-December

**Med:** The seed is anthelmintic, anticholinergic, antifungal, antispasmodic, antitumour, diuretic and laxative. It is used in the treatment of oedema, oliguria, ascariasis and constipation. The seed is also used as a contraceptive in Korea.

***Ipomoea obscura (L.)***

**Fls and Frts:** January-March

**Uses:** Part of the plant is tied over the wrist of the children for curing diarrhoea and dysentery. (Ramana V. M., 2008.)

***Ipomoea quamoclit L.***

**Notes**–Ornamental.

**Fls and frts:** September–December.

**Vern**–‘Ganesh Pushp, Ganeshvel’

**Med**- *Ipomoea quamoclit* is used as folk medicine around the world for various illnesses. ... quamoclit reported over the last few decades. These include antioxidant activity, antimicrobial activity, anticancer activity, antidiabetic activity as well as insecticidal activity.

***Ipomoea sinensis.***

**Fls and Frts:** Octomber-November.

**Med:** A number of pharmacological properties such as diuretic, anthelmintic, blood purifier, deobstruent, laxative, carminative and anti-inflammatory actions have been ascribed to this plant, besides its use to treat abdominal diseases, fevers, headache and bronchitis.

***Ipomoea indica***

**Fls and Frts: Octomber**

**Med:** The whole plant of *Ipomoea indica* is used for fever, ulcer and rheumatism and recently reported for anti-diabetic activity. An oil extract of the plant is used for external application in the treatment of headache, rheumatism, leprosy, epilepsy, ulcers and fever.

***Evolvulus alsinoides , Linn.***

**Fls and Frts:** July–November.

**Vern**–Vishnukanta; Shankhapushpi.

**Uses-**

**Med-** Used as a tonic.

Also used in reduced fever.

***Rivea hypocrateriformis***

**Fls and Frts:** August–October.

**Vern-** Phanji.

**Med:** The plant is also reported for its ethnomedicinal uses in treating cough, headache, skin disease, malaria etc, as well as treating external conditions such as burns, piles and to relieve pain.

***Jacquenonsia paniculata ,***

**Fls and Frts:** October–November.

**Med:** It has Wound Heling properties.

***Convolvulus arvensis L. Local Name- ‘Chandvel’..***

**Fls and Frts:** December–June.

**Use:**

**Med:** For Constipation: 25-30 ml of roots extract taken for 15-20 days during night.

Literature: Jain, 1991 (rt) purgative.

**RESULTS AND DISCUSSION**

Present work is the result of intensive and exhaustive work to explore the medicinal importance and uses of the plants from the family *Convolvulaceae* in Ambegaon tehsil District Pune (M.S) India. Family *Convolvulaceae* having ethnobotanical value among tribals of the region. We have listed total 8 genera of the family and 22 species of which 5 genera are medicinally important and 14 species are having medicinal value (Table 1 and 2).

**Table 1.** Analysis of plant part used as a medicine.

S.no	Plant part	No of Genera
1	Root	4
2	Stem	3
3	Leaves	5
4	Tuber	1
5	Inflorescence	0
6	Flowers	5
7	Seed	5

**Table 2.** List of genera and species with their medicinal importance.

S. no	Botanical name	Local name	Plant part used	Mode of administration
1	<i>Ipomoea hederifolia</i>	Lal pungali	Leaves , Root	Internal , External
2	<i>Ipomoea carnea</i>	Besharam	Leaves	External
3	<i>Ipomoea cairica</i>	Garvel	Seed	Internal
4	<i>Ipomoea parasitica</i>	Pungali	Leaves	External
5	<i>Ipomoea triloba</i>	morning glory	Leaves	Internal
6	<i>Ipomoea nill</i>	Pungali	Seeds	Internal
7	<i>Ipomoea obscura</i>	Pungali	Leaves	Internal
8	<i>Ipomoea qumoclit</i>	Ganeshvel	Leaves ,Root	Internal. External
9	<i>Ipomoea sinensis</i>	Salsa	Leaves	External
10	<i>Ipomoea indica</i>	bineweed	Leaves	Internal, External.
11	<i>Evolvulus alsinoides</i>	Shankhapush pi	Leaves , Root	Internal, External
12	<i>Rivia hypocrateriformis</i>	Phanji	Leaves	Internal. External
13	<i>Jacquemontia paniculata</i>	-	Bark and Leaf	Internal, External
14	<i>Convolvulus arvensis</i>	Garvel	Leaves	Internal

**CONCLUSION**

*Convolvulaceae* species are suggested to treat CNS diseases and 46 species have been used in different disorders. The Seed of *Convolvulus* commonly used as tonic for liver and kidney in herbal medicine .Overall family have ethnobotanical value among tribal tehsil.

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