

## RESEARCH ARTICLE

## Diversity of *Ipomoea* (Convolvulaceae) in some of the regions of Maharashtra

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Manuscript details:	ABSTRACT
<p>Available online on <a href="http://www.ijlsci.in">http://www.ijlsci.in</a></p> <p>ISSN: 2320-964X (Online) ISSN: 2320-7817 (Print)</p> <p><b>Editor: Dr. Arvind Chavhan</b></p> <p><b>Cite this article as:</b> Undirwade DN, Bhadane VV and Baviskar PS (2015) Diversity of <i>Ipomoea</i> (Convolvulaceae) in some of the regions of Maharashtra, <i>International J. of Life Sciences</i>, Special issue, A3: 136-139.</p> <p><b>Copyright:</b> © Author, This is an open access article under the terms of the Creative Commons Attribution-Non-Commercial - No Derives License, which permits use and distribution in any medium, provided the original work is properly cited, the use is non-commercial and no modifications or adaptations are made.</p>	<p>The present study deals with genus <i>Ipomoea</i> of family Convolvulaceae from various regions of Maharashtra state. A total of 17 species of the genus have been collected from various localities of state Maharashtra on the collections made between 2013 and 2015 from different parts. The present paper illustrates the diversity and morphology of the species of <i>Ipomoea</i>, which are separated from each other on the basis of their morphological characters.</p> <p><b>Keywords:</b> Diversity, <i>Ipomoea</i>, Convolvulaceae, Maharashtra.</p>
	<p><b>INTRODUCTION</b></p> <p>The family Convolvulaceae is known as morning glory family. About 2000 species of 58 genera are distributed overall the world, mainly in the tropics and subtropics region (Staple and Yang, 1998). More than one third of the species are included into major genera <i>Ipomoea</i> and <i>Convolvulus</i> (Conquist, 1988). Genus <i>Ipomoea</i> represented by 650 species distributed worldwide (Mabberley, 1997).</p> <p>In India family Convolvulaceae is represented 20 genera and 158 species occurring chiefly in the southern and western India Over 60 species of <i>Ipomoea</i> are reported in India (Oudhia, 2001). As well it is widely distributed and occurring especially in damp places of Gujarat, Bihar, West Bengal, Chhattisgarh, Maharashtra, Western Ghats, Goa and Karnataka. Many investigators have worked on various topics of <i>Ipomoea</i>, biodiversity and taxonomy of tropical plant Calcutta (Sivdasan and Mathue, 1998), climbers of taluka Modasa, Dist. Sabarkantha (Gujrat) India (Jangid and Sharma, 2011), foliar anatomy of some uninvestigated species of Convolvulaceae (Tayade and Patil, 2012), leaf anatomical studies in some species Convolvulaceae (Tayade and Patil, 2012), karyotype analysis in some south Indian Convolvulaceae (Sampathkumar, 1970), taxonomic significance of karyotypology in <i>Ipomoea</i> species (Sinha and Sharma, 1992), leaf architecture in some Convolvulaceae (Inamdar and Shenoy, 1981), radial secondary growth, formation of successive cambia and their products in <i>I. hederifolia</i> (Rajput et al., 2008), structure, distribution, development and taxonomic importance of stomata in some <i>Ipomoea</i> L. (Leela and Rao, 1994) and epidermal studies in <i>Ipomoea</i> (Singh et al., 1974).</p>

The family Convolvulaceae is best known in temperate regions for its weedy representatives (e.g. *Calystegia*, *Convolvulus*). *I. batatas* is the world's second most important root which is used as food stuff (Simpson and Ogorzaly, 1995). The present paper highlights the diversity and taxonomic status of genus *Ipomoea* in some of the regions of state Maharashtra.

**Table1:** Showing total number of species of *Ipomoea* L. in the World, India and Maharashtra state.

Name of the genus	Number of Species in the world	No. of species in India	Number of species in Maharashtra
<i>Ipomoea</i> L.	650	60	17

## MATERIALS AND METHODS

Plant explorations were carried out in different seasons of the year at some selected sites in State of Maharashtra. This paper is based on the collection of genus *Ipomoea* from family Convolvulaceae in particular between 2013 and 2015. The collection trips to distant places were of the duration of 2-3 days. In between, brief trips of day's durations were executed along or in the company of one or more helpers. In this way, it was possible to raise the collections from the different parts of the state. In the first year the collections were massive and in the subsequent years they reduced to solitary specimen.

The specimens were carried to the laboratory in the polythene bags or in plant press depending upon the length of trip and distance of the place of collection. The plants collected were pressed and prepared herbarium sheets. These specimens were identified with the help taxonomist and taxonomic literature of family Convolvulaceae.

## A BRIEF TAXONOMIC DESCRIPTION

### 1. *Ipomoea aquatica* Forst.

Marshy or aquatic herbs; stem is hollow, spongy; flowers purplish-pink; capsule globose.

**Occurrence:** Abundant on marshy situations in lake of village Deolgaon Tah. Armori, Dist. - Gadchiroli

**Distribution:** Throughout India, Pakistan, Ceylon, China, Malaya, Tropical Africa and Australia

**Common name:** Naelani Vel, Swamp Cabbage, Nadishak

### 2. *Ipomoea pentaphylla* L.

Perennial glabrous twiner; stem much branched; flowers purple; capsule ovoid.

**Occurrence:** Cultivated in gardens as showy plant, Chalisgaon.

**Distribution:** Deccan peninsula with Ceylon, Tropical Asia, Africa, Australia and America.

**Common name:** Gandivel, Garvel.

### 3. *Ipomoea carnea* sp. *Fistulosa* (Mart. ex Choisy)

Erect or ascending suffruticose herbs; flowers purplish-pink, sometime white; capsule globose.

**Occurrence:** Common in Maharashtra along the ditches and pond sides

**Distribution:** Native of America and introduced in Asia and other continents.

**Common name:** Beshram

### 4. *Ipomoea eriocarpa* R. Br.

Annual, slender, hispid herbs; flowers pink; capsule globose or ovoid.

**Occurrence:** Commonly grows as weed along the road sides at Chalisgaon.

**Distribution:** India, Ceylon, Afghanistan and Tropics of old world.

**Common name:** Ranbhovaari, Maalghanti

### 5. *Ipomoea nil* (Linn.) Roth.

Twining herbs; flowers bluish-purple; capsule ovoid, sepals hirsute-villous basally and with a slender tail-like appendage

**Occurrence:** Common in jungles of Gadchiroli district.

**Distribution:** Throughout in India.

**Common name:** Kaladana, Nilvel, Nilpushpa 5.5

### 6. *Ipomoea hederifolia* L.

Scandant herbs; stem weak; flower crimson or orange yellow; capsule ovoid.

**Occurrence:** Seen as wild species throughout India, observed on road side in between Armori and Brahmapuri (Dist. -Chandrapur)

**Distribution:** Introduced from America, throughout India.

**Common name:** Scarlet morning glory, scarlet creeper, star *Ipomoea*, LalPungli

### 7. *Ipomoea pandurata*

Prostrately growing, herbs; flowers white creamy with pink throat; capsule ovoid.

**Occurrence:** Common in Chalisgaon, found growing in

open places.

**Distribution:** Native to North America, Florida, west to Texas, Kansas and Michigan.

**Common name:** Wild Potato Vine, Man of the earth

**8. *Ipomoea ochracea* (Lindl.) G. Don.**

Twining, herbs; flowers white creamy; capsule ovoid.

**Occurrence:** Common in jungles of Tah. Armori,

**Distribution:** It is native to parts of Africa, Asia, and certain Pacific Islands

**Common name:** Pungli, Vad Fudardi.

**9. *Ipomoea pes-tigridis* L.**

Twining patentlyhirsute herbs; flowers pink; capsule ovoid.

**Occurrence:** Common at Gadchiroli, Armori, Brahmapuri and throughout the Vidharbha region

**Distribution:** Throughout India, Pakistan, Ceylon, Burma, Malaya, China, Polynesia and Tropical Africa.

**Common name:** Vagpadi, Bowervel, Chokhbhilai

**10. *Ipomoea quamoclit* L.**

Twining labrous herbs; flowers deep-red; capsule ovoid.

**Occurrence:** Commonly cultivated as a showy plant in overall Maharashtra, as well found as weed growing on fences along road sides in Maharashtra

**Distribution:** Native of Tropical America usually cultivated in India.

**Common name:** Kamini, Ganesh Vel

**11. *Ipomoea sinuate* (Jacq.)**

Prostrate hardy twining; hairy; flowers white with pink throat; capsule globose

**Occurrence:** Chalisgaon, B.P. Arts, S.M.A. Sci. & K.K.C. Com. College, campus.

**Distribution:** West India, Ceylon, Tropical America, Australia.

**Common name:** Snakevine, Alamo Vine, Noyau Vine

**12. *Ipomoea plebian* R. Br.**

Weak twiner, glabrous herbs; flowers white small

**Occurrence:** Found at Chalisgaon near J.J. Anna Tower and in forest of patnadevi.

**Distribution:** Oregon, north-eastern New South Wales, northern Australia, [Malesia](#).

**Common name:** Bell Vine; Vine, Bell; Vellvine

**13. *Ipomoea indic*L.**

Twiner weak, glabrous herbs; flowerspale-purple

**Occurrence:** Common at North Maharashtra University canteen, Jalgaon (M.S.)

**Distribution:** India, Pakistan, Ceylon, Burma and Japan

**Common name:** Bhamardi, Ghagula, Gariya.

**14. *Ipomoea turpethum*(L.)R. Br.**

Twiner weak, glabrous herbs; flowers white- cream colored

**Occurrence:** Common at road sides of Armori – Brahmapuri (M. S.)

**Distribution:** Endemic to India. It is found in North Circars and Deccan region up to 3000 ft.

**Common name:** Turpeth, Pithori, Nakpatra, Nishut, Nishoth, Shetvad, Nishotar, Tend

**15. *Ipomoea parasitica*(kunth) G. Don**

Trailing, climber on bushes, velvety; yellow throated blue with purplish tinge flowers; capsule is globose

**Occurrence:** Collected from jungles of Chikhaldara (Amravati) M.S.

**Distribution:** It is native to the American continents, but is well naturalized as an escape from cultivation in many parts of the world, including India. Mexico through Central and South America

**Common name:** Yellow throated morning glory

**16. *Ipomoea alba* L.**

Glabrescent, stout twiner; flowers white; capsules ovoid-globose.

**Occurrence:** Chalisgaon, B.P. Arts, S.M.A. Sci. & K.K.C. Com. College campus & Nagpur.

**Distribution:** Native of Tropical America

**Common name:** Ganbhowra

**17. *Ipomoea triloba* L.**

Slender, creeper, twiner; flower purple; capsule globose.

**Occurrence:** Grown as food stuff in Maharashtra.

**Distribution:** Native of America India, Pan Tropical.

**Common name:** Shakkaria, Ratalu.

**RESULT**

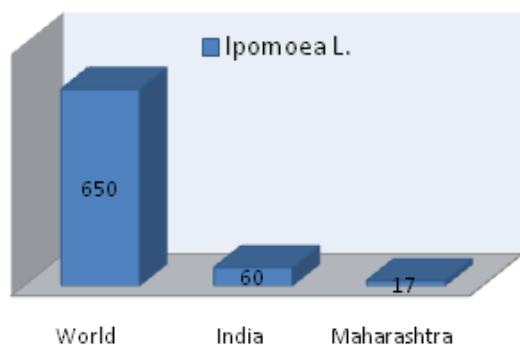
The Maharashtra has rich vegetation and distribution of *Ipomoea* in the state is quite diverse because of its varied and favorable climatic conditions. Many floras were made in state as it has diversity. Members of this genus are dispersed everywhere, found wild as well cultivated in gardens, hotels and at home in villages. A total of 17 species of *Ipomoea* has

been collected from the various regions of Maharashtra state which is 2.62% of the world reported species. In India the 60 species reported account for 9.23% of the world *Ipomoea*.

## DISCUSSION

The present study was conducted on the genus *Ipomoea*, comprising of 17 species (Fig.1). Most of the species are climbers; twiners except a few suffruticose herbs. All these species have been distinguished on the basis of habit, habitat and morphology of stems, leaves, inflorescence, pedicel, corolla, capsule and seeds. Shimpale (2012) has added *Ipomoea ochracea* from Pateshwar hill ranges of Western Ghats in Satara district of Maharashtra state and *Ipomoea Parasitica*, *Ipomoea tenuipes* (2014) recorded from Paithan, Aurangabad.

Subsequently *Ipomoea mombassana* Vatke (Bijuet *al.*, 1998); *Ipomoea.parasitica* (Kunth) Don (Biju, 2002) and *Ipomoea. Ochracea* (Lindl.) G. Don (Shimpale *et al.*, 2012) has been added to Indian flora, bringing the total number into 63 species in India.



**Fig.1:** Bar graph showing number of species of *Ipomoea* in the world, India and Maharashtra.

## CONCLUSION

It is concluded that, as we started exploring the various sites in the state in between 2013 and 2015 so far now we had collected about 17 species which is about 2.62 % of the world flora and 28.33 % of the Indian flora.

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