

## A NEW VARIETY OF *IPOMOEA TRILOBA* (CONVOLVULACEAE) FROM DECCAN PLATEAU, INDIA

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### Abstract

*Ipomoea triloba* L. var. *deccansis* D. K. Londhe & A.S. Bhukatar, var. nov. are described here as a new variety of *Ipomoea triloba* L. (Convolvulaceae) from the Western Ghat of the Deccan plateau, North Maharashtra, India. Observations in the field as well as in cultivation for three years showed that the variety retains its diagnostic characteristics and no intermediate exists. Detailed descriptions and photo plates are provided to facilitate the identification of this new variety.

### Introduction

*Ipomoea* L. is one of the dominant genera in the family Convolvulaceae, popularly known as “Morning Glory”. It represents ca. 650 species and is mainly distributed in tropical and warm temperate regions of the world (Mabberley, 2008). The World Flora Online includes ca.3000 scientific names of species rank for this genus of which ca.714 are accepted names (WFO, 2020). Out of 2537, records retrieved in the World Checklist of Selected Plant Families, ca. 670 accepted species names entered for *Ipomoea* (WCSP, 2019). India represented 60 species previously (Santapau and Henry, 1973), but subsequent records of *Ipomoea mombassana* Vatke (Biju *et al.*, 1998), *I. parasitica* (Kunth) G. Don (Biju, 2002) and *I. ochracea* (Lindl.) G. Don, *I. tenuipes* Verdc. (Shimpale *et al.*, 2012 and 2014) have increased the number of species to about ca. 65. Taxonomists from Maharashtra state reported about 37 species of *Ipomoea* (Cooke, 1905; Naik, 1998; Almeida, 2001; Shimple *et al.*, 2012, 2014; Undiwade and Bhadane, 2017; Kattee *et al.*, 2019).

Authors accidentally came across with an interesting specimen of *Ipomoea* during investigation, at western ghats of Deccan plateau of North Maharashtra, India. The collected specimens were compared with the herbarium (*BAMU*, *BSI*). We searched through online photographs as well as *Ipomoea* species occurred in regional online flora, and plant list, IPNI, JSTOR portal, monograph of *Ipomoea* (Convolvulaceae) in the New World (Wood *et al.*, 2020.) hence revealed that it resembles with *I. triloba* L. but differ in its morphological traits that turn out it as a new variety.

### Material and Methods

Materials were collected in the months of September to January from 2019-2021 at western edge of Deccan Plateau of Western Ghat North Maharashtra, India. All specimens collected were processed using standard herbarium techniques (Jain and Rao, 1977). The authors have collected and recorded the necessary data regarding habitat, habit, morphological variations, phenology and geographic information such as coordinates of the type localities during the field visits. The comprehensive photography of the morphological characters was taken by using D6000 camera (Nikon, Japan) and CMZ-6 stereomicroscope (Labomed, Japan). The scientific novelty of the

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specimens was confirmed by a critical survey of the literature (Hooker, 1882; Cooke, 1905; Naik, 1998; Almeida, 2001; Singh *et al.*, 2001) and comparing with specimens available at BSI, BAMU and images of specimens available in the virtual database of JSTOR (2020), *Ipomoea* species occurred in regional online flora, and plant list, IPNI, monograph of *Ipomoea* (Convolvulaceae) in the New World (Wood *et al.*, 2020.) Edinburgh herbarium (<https://data.rbge.org.uk/search/herbarium/>) and Kew Herbarium (<http://apps.kew.org/herbcat/navigator.do>).

### Taxonomic treatment

*Ipomoea triloba* L. var. *Deccansis* D. K. Londhe & A. S. Bhukatar var. nov. (Fig. 1)

The new variety is morphologically allied to *Ipomoea triloba* L. but distinct by having tap root with adventitious roots, completely white petals, completely green sepals, stem, petiole and pedicel, dimorphic leaves, bract persistent, white stamens, hairy style, globose stigma, glabrous ovary, greenish and glabrous capsule, persistent bract, marginal pilous seeds, longer corolla, peduncles longer than petiole.

*Type*: INDIA, Maharashtra, Nasik, Dindori 73°48'25.92"E, 20°12'12.02"N elevation ca. 640m, November 2019, D.K. Londhe. 3297 (Holotype CAL; Isotype BSI, Pune).

Annual climber, ca. 8 m long. Tap root. Stem cylindrical, wiry, green, pubescent, rooted at nodes and internodes in contact with soil, latex milky. Leaves simple, ovate to obovate, 5-8 x 2-7 cm, glabrous above, pubescent beneath, 3-5 lobed, deeply notched, lateral lobes directed backwardly, margin entire, minutely hairy; stipule small, caduceous, pubescent; petiole 2-3 cm, glabrous or sparsely pubescent. Inflorescence axillary umbel cyme, 1-7 flowered in short lax; peduncle up to 18 cm, longer than petiole, swollen at apex. Flowers bracteate, pedicellate; pedicel 0.3-0.5 cm, bracts ovate, persistent, pubescent, ca. 6 mm long; bracteole 0.3-0.4 cm linear, green. Sepals 5, unequal, 0.7-1.2 cm long, 3-7 mm broad, greenish at apex elliptic ovate to lanceolate, throughout green, usually glabrous, faintly veined; outer two sparsely hairy at lobe. Petals 5, gamopetalous, funnel shaped, completely white, ca. 2.5-3 x 1.8-2.5 cm, 5-lobed, mucronate, tube 1-1.8 cm. Stamen 5, 0.8-1.5 cm, unequal filaments, hairy at base, included, ditheous, white. Stigma globose, white; style 1-1.3 cm long, usually glabrous. Style 0.8-1.3 occasionally hairy. Ovary 1.3-1.5 cm, glabrous. Capsule greenish, grey after dry, glabrous, ca. 1 x 1 cm, dehisces in four halves. Seeds brownish black, triquetrous, marginally pilous with brown hairs.

*Flowering & Fruiting*: Flowering from September to January and fruiting from December to February

*Habitat*: Common along wet shady rocky slopes in association with *Indigofera tinctoria* L., *Alysicarpus heyneanus* Wight & Arn, *Crotalaria pallida* var. *obovata* (G. Don) Polhill, *Lantana camara* L., *Achyranthes aspera* L.

*Etymology*: The variety epithet 'Deccansis' refer collected from Western Ghats of Deccan plateau North Maharashtra, India.

*Distribution*: INDIA, (Maharashtra; Nasik district; Dindori) Rare.

### Conservation status:

*Ipomoea triloba* L. Var. *deccansis* is only reported from single locality from Deccan plateau. It grows in open wet shady rocky slopes. No detailed data is available on the distribution and population of this variety, hence assessed here as Data Deficient (DD) as per the guidelines of IUCN (2019).

*Additional specimens examined*: BAMU: Western Ghats, Talegoan tank 22 Nov. 1975 V. N. Naik 2828 ; Aurangabad, 19 March 1978, V. N. Pardeshi 4201.

*BSI Pune: Naygaon- Thane, 1968, Billore 133774; Ramteldhari Tank- Chandrapur, 1972, Kulkarni 133991.*

*Note:* The new variety is closely allied to *Ipomoea triloba* L. but differs by its tap root with adventitious roots, completely white corolla, white stamens, completely green sepals, stem, petiole, pedicle, bract persistent, capitate stigma and sparsely hairy style with a glabrous ovary, greenish and glabrous capsule, seed marginally pilous with brown hairs.



Fig. 1. *Ipomoea triloba* L. var. *deccansis* D.K. Londhe & A.S. Bhukatar var. nov. A. Habit, b. Twing, C. Tap root, D. Adventitious root, E. Flower with pedicel and calyx, F. Corolla, G. Open split corolla with white stamens, H. Glabrous sepals, I. Pistil, J. Glabrous capsule, K. Seed.

**Table 1. Comparative characters of *Ipomoea triloba* L. var. *deccansis* D.K. Londhe & A.S. Bhukatar var. nov. with allied species.**

Characters	<i>I. triloba</i> L.	<i>I. triloba</i> var. <i>deccansis</i> var. nov.
Tap root	Present	Present
Stem color	Purple	Greenish
Adventitious root	Absent	Present
Leaf lobes	3-5, side lobes blunt or pointed and forwardly directed	3-7, side lobes pointed backwardly directed
Inflorescence	Dense cyme (5-7 flowered)	Lax Cyme (2-7 flowered)
Bract	Caducous	Persistent
Sepals tip	Pink tip	Greenish
Corolla color and size	Red(1.5 x 1.2 cm)	White (2.5-3 x 1.8-2.5 cm)
Anther	Pink	White
Stigma	2-lobed	1-lobed
Style	Glabrous	Hairy
Ovary	Densely pubescent	Glabrous
Capsule	Pubescent purple	Glabrous greenish
Seed	Glabrous	Pilous with hairs

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