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Research Article



Ipomoea triloba (Convolvulaceae) a new record for Chhattisgarh India

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Abstract

Ipomoea triloba is being reported as new species in several places in India. Present report is the first for the presence of the species in Chhattisgarh region. The species is known as a notorious weed and is growing gregariously in this region, also. Some beneficial uses of this species is required to be investigated.

INTRODUCTION

Ipomoea triloba L. Sp. Pl. 1: 161, 1753, Oostroom, Fl. Males. Ser, 1, 4: 468. 1953; Fernandes et al., in J. Bombay nat. Hist. Soc. 52: 661 - 663.1954; Baker and Bakhuizen, Fl. Java 2: 494. 1965; Chandra et al., Ind. J. Fores. 23-24. 1976; Fosberg and Sachet in Smithsonian Contr. Bot. No. 36: 24. 1977; Magesh et al., in ZOO's PRINT, 5, 24. 2012, Shah, Fl. Gujrat 1: 475. 1978; Singh and Pandey, Bull. Bot. Surv. Ind. 21: 92. 1979; Deva et al. Indian For. 116(9) 755 - 756. 1990; Anil Kumar et al., Fl. Pathanamthitta 344. 2005; Bhellum and Magotra J. Phytol. Res. 20(2): 243 - 245. 2007; Sunil and Sivadasan, Fl. Alappuzha Dist. 476. 2009. **Common names:** Little bell, Morning glory, Pink convolvulus, Aiea morning glory, Three lobe morning glory etc. The plant was originally a native of tropical America (Wagner et al. 1999) but is now pantropical (Stone 1970).

Synonyms

The species has been so much attractive that several persons have mentioned the *Ipomoea triloba* L. plant under different synonyms. Some of the synonyms are: *Batatas triloba* (L.) Choisy, *Convolvulus dentatus* Blanco, *Convolvulus heterophyllus* Sessé & Moc., *Convolvulus ipomoea* Vell., *Convolvulus mariaannensis* (Choisy) Gaudich., *Convolvulus mariannensis* (Choisy) Gaudich. ex Saff., *Convolvulus sloanei* Spreng. *Convolvulus subquinelobus* W. Wood, *Convolvulus trilobus* (L.) DC., *Convolvulus trilobus* (L.) Desr., *Ipomoea blancoi* Choisy, *Ipomoea galapagensis* Anderson, *Ipomoea krugii* Urb., *Ipomoea mariannensis* Choisy, *Ipomoea parviflora* Vahl, *Ipomoea triloba* var. *quinquefolia* Kuntze, *Ipomoea webbii* Coutinho, *Quamoclit triloba* (L.) G. Don, *Sanilum parviflorum*.

Homonyms: Also the name *Ipomoea triloba* has been so much popular that different plants have been given the same name which are homonyms and are obsolete now, like: *Ipomoea triloba* Thunb.

and *Ipomoea triloba* Vahl. In India it was recorded from Gujarat, Kerala, Karnataka, Maharashtra, Rajasthan, Uttar Pradesh (Dehradun, now in Uttarakhand), Jharkhand, West Bengal, and Jammu & Kashmir. It is also reported from Haryana, Madhya Pradesh by efloraofindia google group. India Biodiversity Portal also reported the species from Meghalaya and Telengana. Recently it has also been reported from Andaman & Nicobar Islands (Magesh et al. 2012; Naik et al. 2016).

Geographical distribution in Chhattisgarh

Presently, *I. triloba* was found on the Campus of Pt. Ravishankar Shukla University, Raipur, Chhattisgarh (21° 14'43.6"N, 81° 35'33.2"E) and in Udaypur region of Sarguja district, Chhattisgarh (22° 54.063' N, 82° 56.522' E).

Discovered plant was identified by the Botanical Survey of India (BSI), Allahabad with Accession No. 99691, June 2017. Voucher deposited in the NCNR Herbarium, Pt. RSU, Raipur.

Ipomoea triloba is most likely to be confused with tievine (*Ipomoea cordatotriloba* Dennsted), previously known as *Ipomoea trichocarpa*. However, *Ipomoea cordatotriloba* has flowers 3.0 to 7.5 cm long, while the flowers of *Ipomoea triloba* are always less than 2.3 cm long.

Habitat

I. triloba grows in wasteland, climbing the fence along road side as well as growing over the ground as a creeper. It grows well in shade as well as in sun, in well drained moist soil.

Habit: It is a slender vine. The plant has very thin wiry stem unable to grow upward on its own. It scrambles over the ground and grows upward only as a twiner over any other support including the other plants or the fences. Also, very commonly several stems of the plant twine among themselves to form strong enough structures to grow upwards. If no support is available it grows prostrate over the ground as a creeper. The plant grows gregariously hindering the growth of other plants growing by its side.

Ipomoea L. is one of the dominant genera of Convolvulaceae. In India, the genus is represented by ca. 60 species (Santapau and Henry 1973). *Ipomoea triloba* in Chhattisgarh is not reported by the earlier workers (Khanna et al. 2001; Mudgal et al. 1997; Panigrahi et al. 1989; Verma et al. 1985). Here it is being reported as new record to Chhattisgarh.

Plant Description

Stem

Stems prostrate and twining, usually much branched, 1-5 m long, glabrous or sometimes

sparsely pubescent, more densely pubescent on the nodes. Somewhat angled, about 1.5–3.0 mm wide, when cut, the stems exude a small amount of milky sap.

Leaves

Leaves simple, alternate, petiolate, petiole slender, up to 16 cm long, glabrous or sometimes minutely tuberculate, glabrous or pubescent as long as blade or longer, when cut produce a small amount of milky exudates. Leaf blades broadly ovate to orbicular in outline longer than wide 2-12 cm long and 2-11 cm broad, thin, cordate; more or less deeply 3-lobed, usually with two conspicuous basal lobes, center lobe may be pointed. The leaf blade may not always be three-lobed as the specific epithet suggests. Leaf margin entire or coarsely dentate. Underside of the leaf blade clothed with minute hairs. Lateral veins about 4-6 on each side of the midrib.

Inflorescence

Inflorescences axillary, umbellate with dense several-flowered cymes, occasionally 1-flowered; peduncles shorter to longer than the petiole 1-12 cm long, stout, angular toward the apex, glabrous, minutely verruculose toward the apex. branches of the cyme very short, bracts linear-lanceolate, minute.

Flowers

Pedicel 3-10 mm, firm, angular, thickened at apex, glabrous. Flowers. Sepals 5, free, 6-10 mm long. The sepals are in two unequal whorls, the outer two little shorter, oblong to narrowly elliptic-oblong, calyx-lobes sub-equal, elliptic-ovate, limb not broad, 1.8-2.5 mm across, densely hairy on the back, ending in a distinct, abrupt point with Corolla mostly pink to pale-purple often with darker centre and pale mid-petal areas, with or without white markings, funnel-shaped 1.8-2.2 cm long and 2.0–2.2 cm in width, glabrous, narrowed at the base, closing before noon. Stamens 5, attached to the inside of the corolla tube; included, filaments densely hairy at base. Stamens 5, of different length, longest 11 mm long, anthers and filaments white. Pollen grains minutely spinulose, style ca. 10 mm long, stigma bilobed, ovary conical, pilose, 2 to 4-celled, densely pubescent with a white nectary.

Fruit

Fruit depressed subglobose, bristly pubescent, with sharp point bristly hairy; a thin-walled capsule. Fruits 7-9 mm long and in diameter, 2-celled, 4-valved sepals persistent. Seeds two to four per capsule subglobose, ca. 2.5-3.2 mm long, glabrous except at one margin, hard, shiny, chocolate brown.

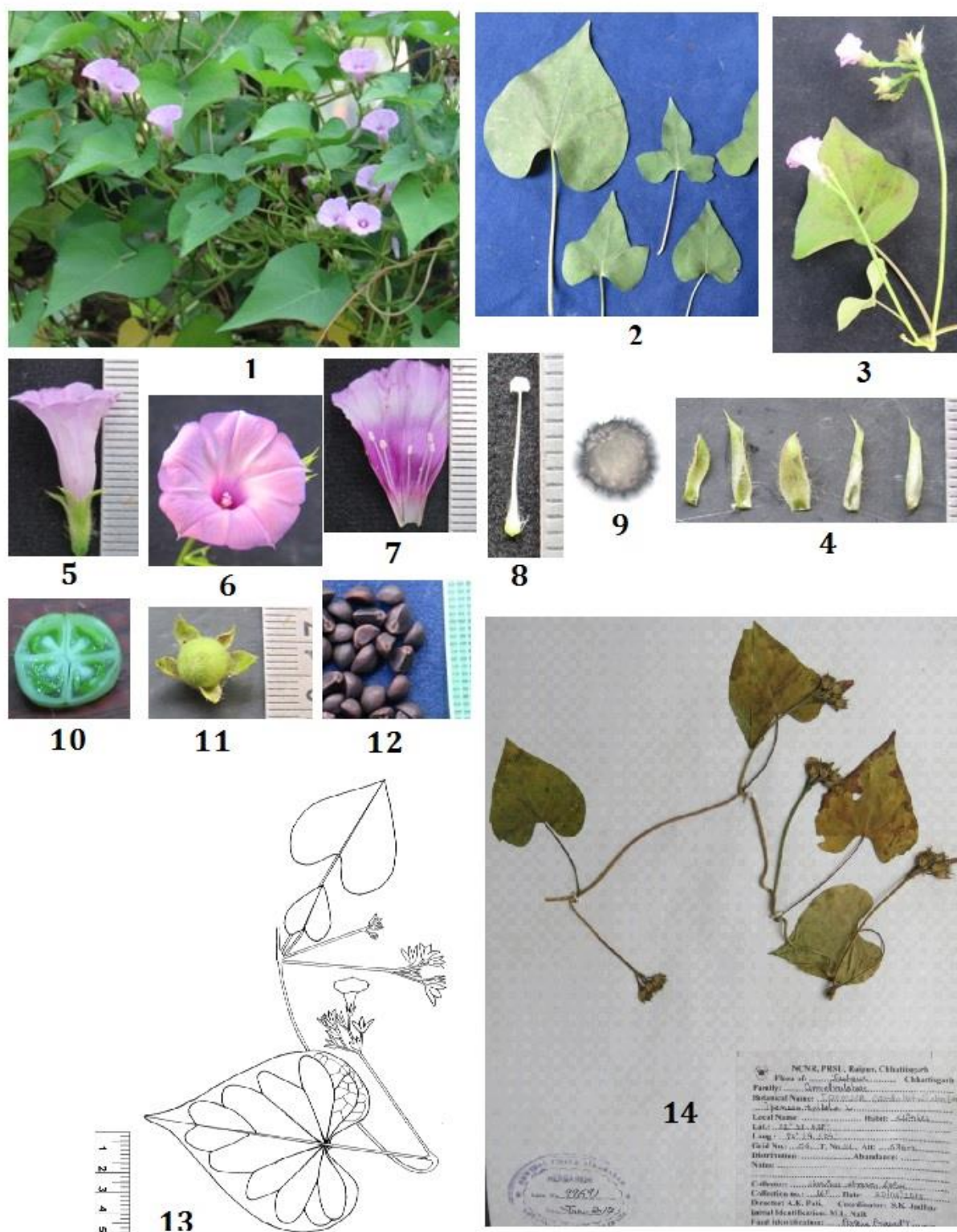


Figure: 1- The plant, 2- Shapes of leaves, 3- Inflorescence, 4 – Sepals, 5, 6 – Flower, 7 – Stamens, 8 – Pistil, 9 – A pollen grain, 10 – T. S. Young fruit, 11 – Fruit, 12 – Seeds, 13 – A twig, 14 – Herbarium sheet.

Cotyledons deeply lobed at the apex and cordate at the base. Flowering and fruiting October – February, if water available in the ground the plant continues to flower up to June.

Ipomoea triloba is considered to be an important plant in honey production in Cuba and other Central American countries (Ordetx, 1949). Because of the attractive flower and habit, this species can be used as wild ornamental species (Divya and Thomas 2015). However, the plant is listed as a Federal Noxious Weed in the USA (Gunn and Ritchie 1982). Introduction is permitted there only by permit from the Animal and Plant Health Inspection Service, USDA. The leaves are cooked and eaten as a vegetable and decoction of the leaves is used against stomach ache in Benin, West Africa, where they are also said to be sold sometimes in local markets (Achigan-Dako et al. 2010). However, for such a widely spread plant it is surprising that there are no other reports of edibility from other areas.

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