



Notes on the occurrence and distribution of *Ipomoea rumicifolia* Choisy (Convolvulaceae) in Gujarat, Western India

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ABSTRACT

During the taxonomic inventory of flora of the Indian Desert, a rare plant species namely, *Ipomoea rumicifolia* Choisy (Convolvulaceae) has been recorded after a long time from the Kachchh district of Gujarat state, Western India. The present paper deals with a detailed taxonomic description of the species along with its phenology, ecology, range of distribution and citations of specimens studied. Further, a colour photoplate displaying different vegetative and floral parts has been provided for easy identification of the species in the field.

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1. Introduction

Kachchh district of Gujarat state is recognized for its unique geographical location, rich plant biodiversity and diversified ecosystems. As per the forest classification of Champion and Seth (1968), the area is classified under 'Northern Tropical Thorn Forest'. The district harbours quite a good number of rare, threatened and endangered plants for the flora of Gujarat state.

The genus *Ipomoea* is one of the dominant and diverse genera of the family Convolvulaceae represented by about 633 species in the world (<https://powo.science.kew.org>). In India, the genus is comprised of 57 taxa including 49 species, 2 subspecies, 4 varieties, and 2 forma (Kattee, 2019). During the post-monsoon exploration in some unexplored Western and Eastern parts of the Kachchh district, the first author collected a few specimens of the genus *Ipomoea* L. After critical laboratory investigations and consultation of relevant literature (Clarke, 1883; Woodrow, 1898; Cooke, 1905; Patel, 2013; Kattee, 2019), the specimens were identified as *Ipomoea rumicifolia* Choisy. Earlier the species was reported from five states of India such as Gujarat, Tamil

Nadu, Karnataka, Andhra Pradesh, and Rajasthan. In Gujarat state, this species was earlier reported by some workers (Jain & Deshpande, 1960; Raghvan *et al.*, 1981; Sabnis & Rao, 1983; Bhatt, 1993) from Kachchh district, but there is no recent record of occurrence of this less known taxon from Gujarat. Since in earlier published literature, detailed botanical description and photoplates of the species were not available, a detailed description, color photographs, relevant notes on its distribution, ecology and habitats are provided in the present communication to facilitate easy identification of the species. The herbarium specimens have been deposited in the Herbarium of Vande Vasundhara Research Laboratory (VVRL), Bhuj, Kachchh, Gujarat.

2. Taxonomic treatment

Ipomoea rumicifolia Choisy, Mem. Soc. Phys. Genève. 6: 447. 1833; Hook. f., Fl. Brit. Ind. 4: 207. 1883; Woodrow in J. Bombay Nat. Hist. Soc. 12: 171. 1898; T. Cooke, Fl. Bombay 2: 244. 1905; Gamble, Fl. Madras 2: 643. 1923; Jain & Desh., Furt. Con. Fl. Kutch. Bull. Bot. Surv. Ind. 2: 291. 1960. (Fig. 1 and 2)

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HERBARIUM

No. _____

Family Convolvulaceae

Genus Ipomoea

Species I. rumicifolia choisy

Variety _____

Local Name _____

Locality (Village, Taluka, District) _____

Chandrapani, Amjar,
Kutch

G.P.S. N 23° 17' 39" E 70° 03' 57"

Date 19/08/2021

Remarks The specimen collected from
dry margins of pond and strongly
associated with merremia

emerginata (Burm.-f.) Hall. f.

Collected by K. I. Prajapati

Determined by _____

Fig. 1. Herbarium specimen of *Ipomoea rumicifolia* Choisy



Fig. 2. *Ipomoea rumicitolia* Choisy **a.** Habit; **b.** Adaxial surface of leaf; **c.** Abaxial surface of leaf; **d.** & **e.** Leaf apex, **f.** Side view of flower; **g.** Top view of a flower; **h.** Androecium; **i.** Gynoecium; **j.** & **k.** young capsule vs. dried capsule; **l.** fruiting twig (up to 5 capsules) **m.** Side view of the mature calyx; **n.** Seeds

Annual; stem herbaceous, erect when young, prostrate at maturity, 1 – 2 m long, hirsute throughout. Leaves 2 – 4 × 2 – 2.5 cm long, ovate-oblong, subreniform, apex obtuse or apiculate, sometimes emarginate, margin entire, mostly undulate, irregularly lobulate, surface glabrous above, hirsute below, hairs present only on veins, base cordate with a rounded lobe; petioles up to 5 cm long, sparsely hirsute. Inflorescence axillary, usually 1 – 2 flowered, sometimes 4 – 6 flowered. Flowers bracteate, pedicellate; pedicel short, 0.5 – 1 cm long, hairy, slightly thickened towards the apex in fruit, deflexed; bracts 3 – 4 mm long, linear, hairy. Calyx 5, 5 – 6 × 2 – 4 mm, subequal, ovate, acute to acuminate, compactly clothed with spreading hairs at the base, margin ciliate, green when young, light reddish at maturity. Corolla 5 lobed, tubular-campanulate, tube 0.5 cm long, pure white, 1 – 1.5 cm wide at the mouth, glabrous throughout or somewhat hairy on the outer side of each lobe, slightly apiculate. Stamens 5; filament 2 – 3 mm, subequal, included, glabrous at the base. Style 4 – 5 mm long; stigma bilobed, capitate. Fruit 0.5 – 1 × 0.3 – 1.1 cm, ovoid, apiculate, glabrous, slightly reddish at maturity, and light brown at the dispersal stage. Seeds usually 4, 5.5 – 6 mm long, velvety.

Flowering & Fruiting: August – December

Distribution:

India (Rajasthan, Gujarat, Karnataka, Tamil Nadu, Andhra Pradesh), Ethiopia, Egypt, Yemen, Malaysia, Australia and Sudan.

Specimens examined:

INDIA, Rajasthan: Pali district, Guru Pratap Singka Guda, 01.09.1975, B. V. Shetty, 1985 (CAL); Jodhpur dist., Tolesar, 21.08.1977, A. N. Singh, 4352 (CAL). Karnataka: Bellary, 17.11.1979, B. R. Ramesh, 10500 (CAL). Tamil Nadu: Ramanathapuram dist., Chithrangud, 11.11.1989; V. Balsubramaniam, 2142 (CAL); Pullanthai, Sayalgudi, 25.12.1989, V. Balsubramaniam, 2315 (CAL). Gujarat: Kachchh district, Nakhtrana, Dhinodhar, Jain 46905 (BSI); Adesar, 12.09.1968, R. S. Raghvan, 95193 (BSI); Nakhtrana, Bhatt J. B. 811 (MSU).

Additional specimens examined:

Gujarat, Kachchh district, Bhuj Taluka, Mokhana, N 23° 17' 11", E 70° 01' 18", 68 m, 2.8.2021, K. I. Prajapati, KP-017; Zikdi-Habay Rakhhal, N 23° 20' 17", E 69° 47' 36", 124 m, 11.9.2021, K. I. Prajapati, KP-018 (VVRL); Anjar Taluka, Chandrani, N 23° 17' 39", E 70° 03' 57", 53 m, 19.8.2021, K. I. Prajapati, KP-019 (VVRL); Sataper, N 23° 08' 46", E 70° 02' 29", 59 m, 19.8.2021, K. I. Prajapati, KP-020 (VVRL); Abdasa Taluka, Naliya, Dhufi Nani, 15.9.2021, N 23° 14' 30.3", E 69°

00' 28.4", 68 m, K. I. Prajapati, KP-021 (VVRL); Raper Taluka, Adesar, 25.11.2021, N 23° 36' 46", E 71° 02' 23", 10 m, K. I. Prajapati, KP-035 (VVRL).

Habitat & Ecology:

During the extensive field trips in the Kachchh district, the species was found wild in five localities and all the locations had different ecological habitats and associated species. In Mokhana field, the specimen was collected from dried loamy soil of the annual canal and associated species were *Achyranthes aspera* L., *Fagonia cretica* L., *Chloris barbata* Sw., *Aristida adscensionis* L., *Cyperus* sp. However, at Chandrani field, the plant was collected from dried soil of pond margins and *Merremia emarginata* (Burm. f.) Hall. f., *Trianthema portulacastrum* L., and one rare species *Hibiscus obtusilobus* Garcke were the close associates. In Habay Rakhhal, the habitat was a hilly track and *Oropetium thomaeum* (L.f.) Trin. was the dominant associated species. Similarly, in Abdasa field, the habitat was dominated by agricultural fields and open grasslands and *Convolvulus stocksii* Boiss., a threatened plant, was observed as the close associate in such habitats. In last locality Adesar, the specimen was collected from highly saline soil of Little Rann of Kachchh and *Aeluropus lagopoides* (L.) Trin. ex Thw was a strongly associated species.

Note:

During the literature survey, the authors noted that the species reported in the Flora of the Indian Desert (Bhandari, 1990) and Flora of Rajasthan (Shetty & Singh, 1987) are misidentified as *Ipomoea verticillata* Forsk. [Syn. *Ipomoea biflora* (L.) Pers.].

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