

Research Paper

Ipomoea sagittifolia Burm.f. (Convolvulaceae)- New Record for Flora of Nepal

Dipa Paneru and Sangeeta Rajbhandary*

Central Department of Botany, Tribhuvan University, Kirtipur, Kathmandu, Nepal

*Corresponding author's email: s.rajbhandary3@gmail.com

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Abstract

The genus *Ipomoea* (Convolvulaceae) is represented by twenty-seven species in Nepal. Present study has added one more record, *Ipomoea sagittifolia* Burm.f. A detailed description along with ecology, distribution and colour photo plate has been provided. Distinguishing character of this species are deeply cordate leaves with purple blotches on the center and bears purplish margin, white large flowers with pinkish anther lobes.

Keywords:

Ipomoea
Convolvulaceae
Flora of Nepal
New record

Introduction

Convolvulaceae, commonly known as morning glory family having approximately 2000 species belonging to 58 genera distributed all over the world (Staple & Yang, 1998). *Ipomoea* L. is the largest genus of family Convolvulaceae and contains about 800 species having pan-tropical and sub-tropical distribution (Wood et al., 2020). In Nepal the genus comprises 27 taxa occurring in tropical, sub-tropical and temperate regions (Press et al., 2000; Bista et al, 2001; Shrestha & Rajbhandary, 2014; Shrestha et al., 2022).

The report of *Ipomoea sagittifolia* from Suklaphanta National Park, Western Nepal brings the number of species to 28. The species was collected from the grassland areas of Suklaphanta National Park (Figure 1).



Figure 1: Map showing collection location in Kanchanpur District.

Materials and Methods

While working on the floristic diversity of Suklaphanta National Park, the samples of this species from different locations in grassland were collected in October 2022. According to the established protocols, the specimens were prepared for herbarium and mounted on the mounting sheet for additional research (Forman & Bridson, 1989). The photographs and herbarium samples were compared with the species deposited at KATH and TUCH. There was no record of this species in the herbaria and in all the literatures available in Nepal. The specimens were identified with the help of the keys given in Flora of China (Fang and Staples, 1995) and photographs were studied through various online resources Plants of World Online (POWO, 2023) and online herbarium of Botanical Survey of India (<http://ivh.bsi.gov.in/phanerogams-gen-coll>). Therefore, *Ipomoea sagittifolia* is considered as a new record for Flora of Nepal.

Keys to Nepalese *Eripomoea* Choisy section:

Convolvulaceae family was divided into four sections by Choisy (1845): *Argyreiae*, *Convolvuleae*, *Dichondreae*, and *Cuscuteae*. Genus *Ipomoea* was included in section *Convolvuleae* (Group I - Flowers with solitary style), and within this subsection, fifteen genera were described. Choisy began the infrageneric categorization of the genus *Ipomoea* and defined three subgenera (*Orthipomoea*, *Strophimoea* and *Eripomoea*). Members of the *Eripomoea* section have seeds that are pubescent and plants glabrous or hairy. These four species belongs to *Eripomoea* section as given by Choisy. All these species share common character of the section however *Ipomoea sagittifolia* differentiates from

others having characteristic features like leaves with purple blotches on mid-rib area with purplish margin and pinkish anthers.

- 1a. Plant aquatic, Stem usually prostrate, thick, fistulose.....*Ipomoea aquatica*
- 1b. Plant terrestrial, Stem twinning or climbing, thin, solid.....2
- 2a. Leaves palmately parted, pseudostipules present.....*Ipomoea cairica*
- 2b. Leaves entire, pseudostipules absent.....3
- 3a. Corolla white or pale yellow, with darker midpatelline bands, leaves green, anther white.....*Ipomoea obscura*
- 3b. Corolla white, with no darker midpatelline bands, leaves with purple blotches on Centre, anther pinkish.....*Ipomoea sagittifolia*

Taxonomic treatment

Ipomoea sagittifolia Burm.f. Fl. Ind. 50. 1768.

Basionym: *Convolvulus sagittifolius* Michx.

Annual herb. Stem twining or prostrate, thin, solid, hirsute. Leaves alternate, simple, petiolate, petiole 2-2.5cm, petiole minutely tuberculate, lamina- elliptic- ovate, 3-6cm X 3.5-6.5cm, glabrous, base- deeply cordate, margin- entire to undulate, apex- acute to acuminate, purple blotches on centre of the leaves and purplish margin. Inflorescence axillary, multiple flowered; peduncle 5-6.3 cm, verruculose; bracts ovate, 3mm. Pedicel 9-15mm, verruculose. Sepals ovate, 2 outer and 3 inner, inner 3 longer than outer, 1.1-2cm, glabrous, apex- obtuse; outer 2 verruculose. Corolla white, salverform, 3-4cm, 5 lobed. Stamens 5, shortly exerted at mouth, epipetalous at corolla base, filament base hairy, anther dehiscence longitudinally, pink, filament 2-3cm, anther 2-2.5mm X 1.15mm. Ovary glabrous, 4-locular; ovule 1 in each locule, stigma bilobed, capitate. Capsule glabrous, 4-valved, seeds 4 per capsule, seeds grayish (Figure 2).

Flowering: September- October

Fruiting: October- November

Ecology: Found in open grassland areas

Distribution: Africa, Sri Lanka, Pakistan, India, China, Myanmar, Thailand, Laos, Vietnam, Malaysia, Indonesia, New Guinea, North Australia, Pacific Island (Fang & Staples, 1995).

Species examined: Western Nepal, Kanchanpur district, Suklaphanta National Park, 28.811° N, 80.224° E, 183m, 17 October 2022, D. Paneru & A. Sapkota. SNPIP01 (TUCH, KATH); Western Nepal, Kanchanpur district, Suklaphanta National Park, 28.485 ° N, 80.132 °E, 184m, 21 October 2022, D. Paneru. SNPIP02 (TUCH, KATH).

Note: This species is somehow morphologically similar to *Ipomoea aquatic* Forssk. However it can be distinguished from *Ipomoea aquatic* from having the characters like thin, solid stem, deeply cordate leaves with purple blotches on the center and bears purplish margin, white large flowers with pinkish anther lobe.



Figure 2: *Ipomoea sagittifolia*. a. Habit; b. Flower; c. Leaf; d. Outer sepals; e. Inner sepals; f. Stamen; g. Stigma; h. Fruit; i. Seeds.

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