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DOI: <https://doi.org/10.17102/cnr.2021.64>***Ipomoea campanulata* L. (Convolvulaceae) - a new record to the flora of Bhutan**Phuentsho^{1,*}, Rinchen Dorji¹, Lungten Norbu²**Abstract**

Presence of the large shrubby plant called *Ipomoea campanulata* is reported for the first time in Bhutan. It was found during an invasive alien plant survey conducted in the Jomotsangkha Wildlife Sanctuary in February 2020. Specimens were collected from the Deorali roadside between Phuntshothang and Samrang in Samdrup Jongkhar district. A brief diagnosis along with its distribution and color photographs are provided.

Keywords: Bhutan, Convolvulaceae, *Ipomoea campanulata*, new record

Introduction

Ipomoea L., the largest genera of the family Convolvulaceae is a pantropical genus with around 800 species distributed globally (Wood *et al.*, 2020). The Flora of Bhutan (Grierson & Long, 1999) described a total of 12 species with 11 of them known to occur in the country.

In the Flora of China available on eFloras.org, it is mentioned that *Ipomoea campanulata* has been confused with *Stictocardia tiliifolia* (Desr.) Hallier f. and The Plant List (2013) treats *I. campanulata* as a synonym of *S. tiliifolia* whereas the Global Biodiversity Information Facility (GBIF) (2019) treats *I.*

campanulata as a synonym of *S. tiliifolia* subsp. *tiliifolia*. Austin *et al.* (1978) concluded that *I. illustris* (C.B. Clarke) Prain published in Bengal Plants (1903) with a type material from Malay Peninsula and *I. campanulata* var. *illustris* Clarke published in Flora of British India (1883) as synonymous to *I. campanulata*. They believe that the species occurring in the interior habitats as the true *I. campanulata* or a closely related species. They also mentioned the occurrence of certain material with pubescent sepals from the interior habitats away from the coastal/riverine habitats. Our current material also fits into this description, in having pubescent sepals and habitat, being in the interior area. As per Austin and Bianchini (1998), *I. campanulata* is accepted as a correct name and is a distinct taxon from *S. tiliifolia*. Furthermore, Catalogue of Life (2020) and Plants of the World Online also accepts *I. campanulata* as the current valid name.

I. campanulata is morphologically similar to *S. tiliifolia* in their appearance and habitat. However, their distinguishing characters as per

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Figure 1: *Ipomoea campanulata* L. with flowers bearing dark purple throat

Austin *et al.* (1978) are given in Table 1. The morphological differences suggest that they are independent species. Brief description, relevant notes and colour photographs of the species are provided to facilitate easy recognition of this species in future.

Materials and Methods

During an invasive plant survey in the Jomotsangkha Wildlife Sanctuary in February 2020, a large spreading shrubby plant with white flowers bearing dark purple throat was collected. Flora of the British India (Hooker, 1885) was used to identify it as *I. campanulata*. Specimens were collected and deposited in the National Herbarium (THIM).

Results and Discussion

Taxonomy

Ipomoea campanulata L. Species Plantarum 160 (1753). Figure 1

Ipomoea illustris (C.B.Clarke) Prain in Bengal Plants 735. (1903).

Ipomoea campanulata var. *illustris* Clarke in Flora of British India (1883).

Type: India "Adamboe" in Rheede, Hortus Malabaricus, 11: 115, t. 56, (1692) (Lectotype)

Description

It is a large shrubby twiner. Leaves alternate,



Figure 2: *Ipomoea campanulata* L. growing below road at Deorali on March 10, 2020

8.5-18.5 x 9.5-21 cm, ovate to orbicular, entire, abruptly acuminate, cordate at base, pubescent mainly beneath the veins, primary lateral veins 14-17 pairs. Petiole 4 – 8.5 cm. Pedicel stout, 0.5 – 0.8 cm, pubescent. Sepals orbicular, 0.9 – 1.1 x 0.8 – 1.2 cm, 6 numbers, outer 3 pubescent outside, inner 3 glabrous. Flowers are usually 2 or 3 together, cymose. Corolla 3-7 cm long, campanulate, distinctly lobed, glabrous, white with dark purple throat. Fruits not seen. Flowering December - April.

Specimen examined

Bhutan, Samdrup Jongkhar, Pemathang, Deorali, 26.884307N, 91.795332E, 450m. Herbarium specimen was collected on 10 February 2020 by Phuentsho, R. Dorji and L. Norbu. The specimens (*Phuentsho et. al.* BTN154) are deposited at the National Herbarium (THIM) under the National Biodiversity Centre, Bhutan; with accession numbers: THIM15587 (Figure 3), THIM15588, THIM15589, THIM15590.

Habitat

The species was found inhabiting disturbed and open space of sub-tropical forest with associated species such as *Alangium chinense* (Lour.) Harms, *Chromolaena odorata* (L.) R.M. King & H. Rob., *Duabanga grandiflora* (Roxb. ex DC.) Walp., *Macaranga denticulata* (Blume) Müll.Arg., *Toona ciliata* M. Roem

Table 1: Taxonomic distinction between *I. campanulata* and *S. tiliifolia* as per Austin *et al.* (1978)

Characters	<i>S. tiliifolia</i>	<i>I. campanulata</i>
Primary lateral veins	(5) 7-8 pairs	10-15 pairs
Dark glands on the lower face of blades	Present	Absent
Flowers	Usually, solitary	Usually in groups of three
Sepals	Equal	Unequal
Corolla	Unlobed or slightly lobed	Corolla distinctly lobed
Fruits	Indehiscent	Dehiscent
Seeds	Shortly pubescent	With long woolly indument

and *Mikania micrantha* Kunth (Figure 2).

Distribution

Thailand, Sri Lanka, India, Myanmar, China, Thailand, Laos, Malaysia, Philippines, New Guinea and now in Bhutan.

Note

Since *Ipomoea campanulata* is native to the Indo-Malayan region, we feel that it is also native to Bhutan. However, since the current site where this plant was found is near a road, and its proximity to the Bhutan-India border, we cannot rule out it being introduced unintentionally. Furthermore, since the species was reported from only one locality, reports of the species from other places may help to confirm the establishment status.

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Figure 3: Herbarium specimen of *Ipomoea campanulata* L. deposited at National Herbarium (THIM) in the National Biodiversity Centre, Bhutan

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