



The genus *Justicia* L. (Acanthaceae) in Sikkim Himalaya

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Abstract

In Sikkim, the genus *Justicia* L. (Acanthaceae) is represented by five wild and two cultivated species. Because of showy flowers, many species have horticultural value and often introduced in gardens. The present communication enumerates all species of the genus found in the state along with their phenology and details distributional records. Additionally, the key to the species is also incorporated for easy recognition of the members.

Keywords: Enumeration, Horticulture, *Justicia*, Sikkim.

INTRODUCTION

The members of the genus *Justicia* L. (Acanthaceae) are mostly herbs and shrubs and are found in the warm tropical and temperate regions of the world (Mabberley, 2017). The Indian Himalayan region shelters 13 species (Singh *et al.*, 2019) even though 70 species are growing across the country (Arisdason *et al.*, 2020). Sikkim harbors five wild and two cultivated species of the genus in its tropical and subtropical forests (Singh *et al.*, 2019; Arisdason *et al.*, 2020). Gogoi *et al.* (2021) included three wild species of the genus in the state besides two cultivated species, viz. *J. aurea* Schltld. and *J. carnea* Lindl. Both *J. aurea* and *J. carnea* are introduced in different gardens of the state. The vibrant flower colors of its members reflect immense horticultural value and the domestication of these species helps in sustainable economic development of the state. The present enumeration additionally reports the occurrence of two more wild species, viz. *J. procumbens* L. and *J. wallichii* (Nees) T. Anderson (Arisdason *et al.*, 2020).

In this present communication, Sikkim Himalayan members of *Justicia* L. are enumerated along with their phenological data, altitudinal range and Indian as well as world distribution. Additionally, the key to the species of the genus found in Sikkim Himalaya is also provided for easy identification.

OBSERVATION

Enumeration of *Justicia* L. in Sikkim (arranged in alphabetical order)

1. *Justicia adhatoda* L., Sp. Pl. ed. 1: 15. 1753. [Fig. 1]

Flowering & Fruiting: October-April

Distribution: INDIA: Throughout; CHINA; INDONESIA; MALAYSIA; NEPAL; PAKISTAN; SRI LANKA [100–500 m].

2. *Justicia procumbens* L., Sp. Pl. ed. 1: 15. 1753.

Flowering & Fruiting: Almost throughout the year

Distribution: INDIA: Jammu & Kashmir, Sikkim, Uttarakhand; BANGLADESH; BHUTAN; CHINA; INDONESIA; JAPAN; LAOS;

MALAYSIA; MYANMAR; NEPAL; PHILIPPINES; SRI LANKA; THAILAND; VIETNAM [900–1700 m].

3. *Justicia vasculosa* T. Anderson, J. Linn. Soc., Bot. 9: 515. 1867.

Flowering & Fruiting: January–April

Distribution: INDIA: Andaman and Nicobar Islands, Arunachal Pradesh, Assam, Himachal Pradesh, Meghalaya, Nagaland, Sikkim, West Bengal [500–1500 m].

4. *Justicia virgata* T. Anderson, J. Linn. Soc., Bot. 9: 516. 1867.

Flowering & Fruiting: October–March

Distribution: Arunachal Pradesh, Assam, Meghalaya, Sikkim [300–900 m].

5. *Justicia wallichii* (Nees) T. Anderson, J. Linn. Soc., Bot. 9: 516. 1867.

Flowering & Fruiting: September–December

Distribution: INDIA: Himachal Pradesh, Sikkim, West Bengal; BHUTAN; CHINA; INDONESIA; LAOS; MALAYSIA; MYANMAR; THAILAND; VIETNAM [900–1600 m].

Key to the species of *Justicia* found in Sikkim:

- | | |
|--|----------------------|
| 1. Cultivated | 2 |
| - Wild | 3 |
| 2. Flowers yellow | J. aurea |
| - Flowers red | J. carnea |
| 3. Large shrubs to small trees | J. adhatoda |
| - Herbs or small shrubs | 4 |
| 4. Stems procumbent | J. procumbens |
| - Stems erect or prostrate at base then ascending | 5 |
| 5. Stem prostrate at base then ascending | J. wallichii |
| - Stems erect | 6 |
| 6. Petioles winged in upper 1/3 rd part | J. virgata |
| - Petioles winged throughout | J. vasculosa |

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Fig. 1: *Justicia adhatoda*: A flowering twig