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Flower color variations in *Iphigenia indica* (L.) Kunth – Colchicaceae

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ABSTRACT

Yellow coloured flowers of *Iphigenia indica* (L.) Kunth are reported for the first time from Telangana state, India and it's a remarkable flower colour variation other than brownish purple flowers of *I. indica*. The uniqueness of flowers was shown here for easy identification.

Keywords: Brownish purple, Corm, Endemic, Filaments, Herb and Yellow.

1. INTRODUCTION

A geophytic genus *Iphigenia* Kunth comprises 11 species (POWO, 2021) worldwide, of which 6 species are existing in India. Among them, 5 species namely *I. magnifica*, *I. mysorensis*, *I. pallida*, *I. sahyadrica* and *I. stellata* are endemic to India and *I. indica* is distributed in India, Southeastern Asia and Australia (Lekhak, 2015; POWO 2021). Species of *Iphigenia* are potential source of colchicine (Ansari & Rao, 1973). *I. indica* (Shancigu) is a traditional Chinese herbal medicine and also used to treat breast cancer (Jiang *et al.*, 2021).

During the regular plant explorations of Botanical Survey of India, the grass like plants with underground bulb or corm having brownish purple, yellow and white flowers were observed at Damagundam Grasslands, Vikarabad District, Telangana, India on 31.07.2021. The white flowered grass like plants were identified as *Iphigenia pallida* Baker and the others are identified as *I. indica* (L.) Kunth (Figure 1). Except petals colour, both flowers are having the hairy filaments and 3-partite stigmas. There are no significant differences in morphology, fruit shape and seed structure between the plants with brownish purple and yellow flowers. Anthocyanins are the primary source of colour in flowers and attracting insects for the pollination. He *et al.* (2011) studied the petal coloration of *Lycoris longituba* and explained how anthocyanins determining the diversity of flower colours which leads to adaptive evolution of flowers. Apart from Anthocyanins pigment, crossbreeding and mutations are responsible for floral color variations (Sobel, 2013). Commonly, *I. indica* will have brownish purple flowers and till date no literature cited the yellow coloured flowers. The Tropical East African species *Iphigenia oliveri* Engl. have the yellow flowers but pedicels are recurved and stamens glabrous (Hoenselaar, 2005). Authors also observed the greenish

coloured and bicoloured like half purple brown and half yellowish petals after the pollination. This document will help to understand the variation in petal coloration and drives the attention of plant taxonomists to not describe a novelty in this genus.



Figure 1: *Iphigenia indica* A–C: with yellow flowers; D–F: with brownish purple flowers

Taxonomic treatment

Iphigenia indica (L.) Kunth, Enum. Pl. 4: 213. 1843.

Type:

König *s.n.*, Herb. Linn. No. 467.9 (Lectotype LINN!, designated by MacFarlane in George, Fl. Australia 45: 405. 1987)

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Ethical approval

The ethical guidelines for plants & plant materials are followed in the study for species collection & identification.

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The authors declare no conflict of interest.

Data and materials availability

All data associated with this study are present in the paper.

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