



Impatiens matthewiana, a new scapigerous balsam from Western Ghats, India

R. RAMASUBBU¹, D. FELIX IRUDHYARAJ¹, A. MOHANRAJ¹ & A.G. PANDURANGAN²

¹Department of Biology, The Gandhigram Rural Institute- Deemed University,
Dindigul, Tamil Nadu, India.

²Plant Systematics and Evolutionary Science Division, Jawaharlal Nehru Tropical Botanic Garden and Research Institute, Thiruvananthapuram, Kerala, India.

Abstract

Impatiens matthewiana, a new species of scapigerous balsam collected from Kerala, India is described and illustrated. This species is closely allied to *I. scapiflora* and *I. pseudo-acualis*, but differs from these two species by having moniliform tubers, rounded leaves, prominently tri-nerved lateral sepals, right basal lobe overlapping or clasping on left one, prominently two-spurred lower sepal and 4-aperturate with radial pollen. This combination of characters makes determining the relationships of *I. matthewiana* difficult.

Key words: Balsaminaceae, Kerala, India, Taxonomy

Introduction

The flowers of *Impatiens* are unique and their morphology has engaged the attention of many observers particularly with regard to the modified sepals and variously coloured petals. *Impatiens* is phytogeographically a unique genus which has greatest development in Indian region and is found chiefly in sub-temperate areas. This genus belongs to the family Balsaminaceae which has about 1,000 species distributed worldwide with two genera, *Hydrocera* Blume ex Wight & Arnott (1834:140) and *Impatiens* Linnaeus (1753:937) (Fischer 2004, Stevens 2004). The genus *Hydrocera* is monotypic and has characteristically free petals with berry-like capsular fruits whereas *Impatiens* has variously united and characteristic petals with dehiscent fruits. The genus *Impatiens* is mainly distributed in the tropics and subtropics of the old world, but a few species also occur in temperate Eurasia and North America. Most species of *Impatiens* are distributed in five hotspots viz., Southeast Asia and southwestern China, eastern to central Himalayas, southern India, tropical Africa, and Madagascar (Grey-Wilson 1980). In India, the concentration of species of *Impatiens* is remarkably local and occurs in two well defined regions viz., the Eastern Himalayas and the Western Ghats. South Indian *Impatiens* have characteristically short capsule whereas the north Indian species have blended capsules. The species of south Indian *Impatiens* are divided in to two sections viz. Scapigerae and Epiphyticae and each section has more or less equal number of species. Most of the Scapigerous species of *Impatiens* occur as epiphytes on evergreen forest, barks of tree trunks, mass laden humus on tree trunks, few species inhabit mostly in the superficial soil and crevices of vertical cliffs, and very few species grow as lithophytes which are exclusively supported by cyptogames. In the past centuries, several botanical researchers made extensive contributions to the taxonomy of the genus *Impatiens* along with few new species (Bhaskar 1975, 2012, Vivekananthan *et al.* 1997, Swaminathan *et al.* 2001). In India, there are 203 species of *Impatiens* reported, of which 137 species are endemic (Swaminathan *et al.* 2001). However, several new species have also been added to the *Impatiens* flora of India by various researchers (Bhaskar 2006, 2012, Narayanan *et al.* 2011, 2012, 2013, Anilkumar *et al.* 2011, Pusalkar & Singh 2010, Dessai & Janarthnam 2011, Gogoi & Borah 2013, 2015, Ramasubbu *et al.* 2015).

Idukki district, a major part of the Anamalai high ranges, forms a center of endemism as far as many balsams are concerned and it is the type locality for more than 25 species of *Impatiens* (Ramasubbu 2009). The highly undulating mountainous configuration and the formation of a well marked upland shola forest with very high rainfall provide suitable habitats for *Impatiens* (Barnes 1939). Many species of *Impatiens* are found restricted to specific altitudinal zones and most of the exclusive endemics are found restricted in isolated pockets in the high altitudes above 2000m