

## *Impatiens latiflora*, a new record of *Impatiens* sect. *Uniflorae* from Sagaing Region, Myanmar

DAKAW PHONG SAN<sup>1</sup>, SAROJ RUCHISANSKUN<sup>2,\*</sup>

### ABSTRACT

*Impatiens latiflora* (Balsaminaceae) is reported for the first time in Myanmar from the Sagaing Region. It differs from other Myanmar species by flat flowers on raceme inflorescences. A description of the species and colour photographs are provided.

KEYWORDS: Balsam, Balsaminaceae, Ericales, India, South-East Asia

Accepted for publication: 20 November 2022. Published online: 8 December 2022

### INTRODUCTION

To date, 66 native *Impatiens* species are recorded from Myanmar (Kress, 2003; Tanaka *et al.*, 2015, 2018, 2022; Ruchisansakun *et al.*, 2017, 2018a, 2018b; Akiyama *et al.*, 2018; Ding *et al.*, 2019). The majority of them, 36 species, are in *Impatiens* sect. *Uniflorae* Hook.f. & Thomson defined by the 5-lobed short-fusiform fruit and free lateral united petals (Yu *et al.*, 2015; Ruchisansakun *et al.*, 2018b). *Impatiens latiflora* Hook.f. & Thomson is native to India and Bhutan distributed from Sikkim to Arunachal Pradesh (Singh *et al.*, 2021). Mr Dakaw Phong San, the first author, found this species growing along the roadside in his expedition in the Sagaing Region of Myanmar in May 2022 as a new record for the country. Therefore, we publish a detailed description, colour photographs and additional information here.

### DESCRIPTION

***Impatiens latiflora*** Hook.f. & Thomson, J. Proc. Linn. Soc., Bot. 4: 139. 1860; Hook.f., Fl. Brit. India 1(fasc. 2): 459. 1874; Hook.f., Rec. Bot. Surv. India 4: 19. 1905; Flora of Bhutan 2. 2001; Singh *et al.*, Biodiv. Res. Conserv. 61: 17. 2021. Type: India, Khasia, Munklow, 3,000–4,000 ft. (914–1,219 m), 18 Oct. 1859, *Hooker & Thomson s.n.* (lectotype **K**

[K000694816! (upper left-hand side specimen)], designated in Singh *et al.*, 2021; isolectotype **K** [K000694816! (lower right-hand side specimen of K000694816)]) Figs. 1–2.

Terrestrial, annual herb 15–60 cm high, with pink adventitious roots. *Stems* erect, 6–20 mm in diam., cylindrical, rarely branched, green to purplish green at base, glabrous to pilose. *Leaves* spirally arranged, mostly crowded towards the apex of the stem; petiole 2–6 cm long, 3–4 mm in diam., pale green, pilose; lamina 7–19 × 3–5.5 cm, obovate, elliptic, ovate, to lanceolate, apex acute to acuminate, base cuneate to attenuate, margin serrate, adaxial surface green, pilose, abaxial surface pale green and pilose, with 2–3 pairs of 1 mm-long globose glands on petiole and 1 pair on lamina base; lateral veins 6–14 pairs. *Inflorescences* racemose with 2–6 flowers, sub-terminal to axillary, erect; peduncle 3–5 cm long, 2.3–2.5 mm in diameter, red to green, glabrous to remotely pilose; rachis 1.2–6 cm, ca 1.5 mm in diam., red to green, sparsely pilose to glabrous; bracts 5–7 × 1.5–2 mm., linear, narrowly triangular, to lanceolate, apex acute to acuminate and mucronate, base cuneate, green, remotely pilose. *Flowers* zygomorphic, flat-type, 4–6 × 3–3.4 cm, 4–6 cm deep including spur, pink to purple; pedicels 1–2.5 cm long, ca 1 mm in diam., red to reddish green, sparsely pilose to glabrous. *Sepals* 3; lateral sepals 2, 8–14 × 4–8 mm, free, ovate

<sup>1</sup> Department of Botany, University of Myitkyina, Kachin State, Myanmar.

<sup>2</sup> Department of Plant Science, Faculty of Science, Mahidol University, Ratchathewi, Bangkok 10400, Thailand.

\* Corresponding author: [s.ruchisansakun@gmail.com](mailto:s.ruchisansakun@gmail.com)

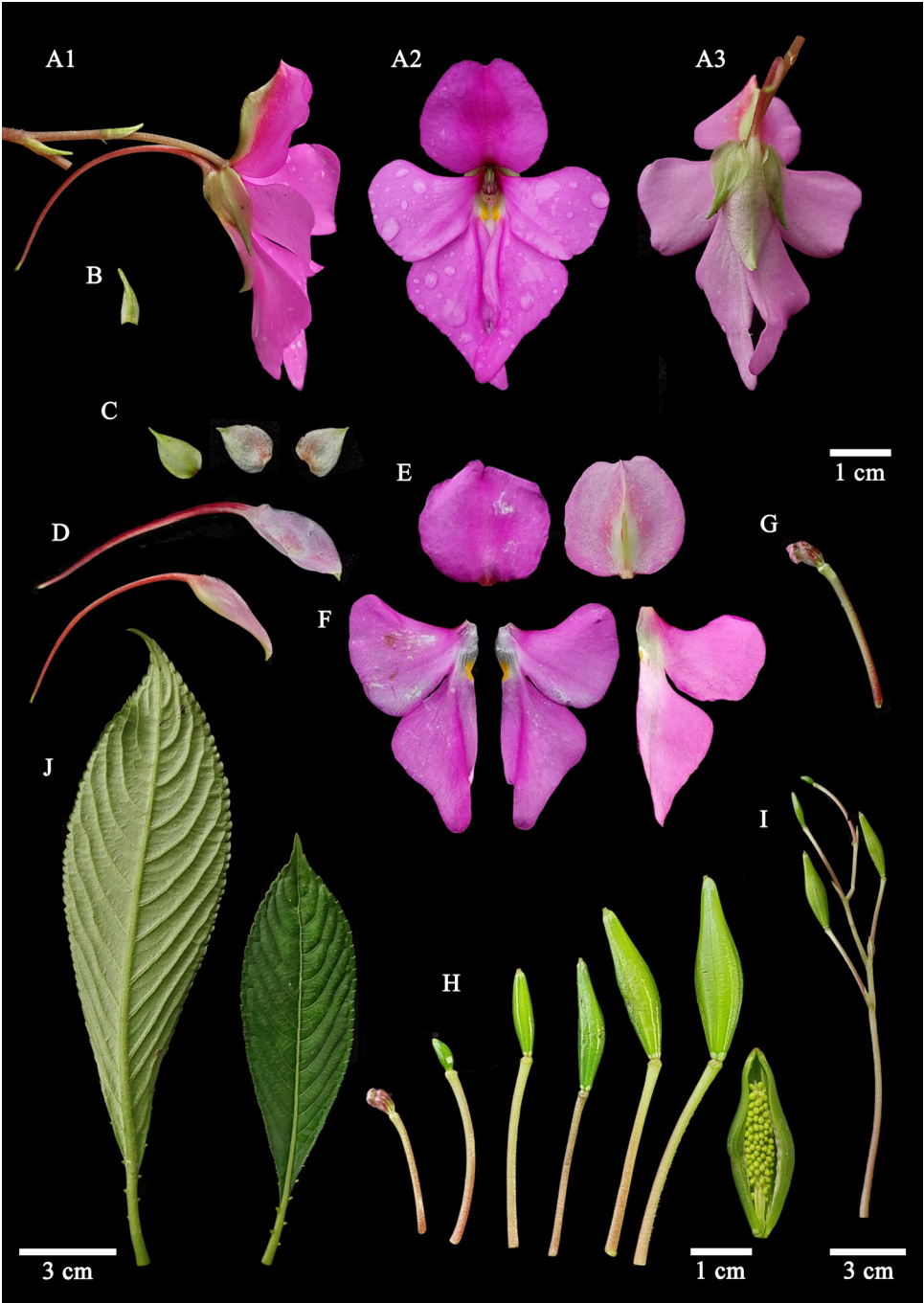


Figure 1. *Impatiens latiflora* Hook.f. & Thomson: A1–A3. flowers; B. bract; C. lateral sepals; D. lower sepals; E. dorsal petals; F. lateral united petals; G. pedicel and stamens; H. fruit development; I. infructescence; J. leaves. Photographs by Dakaw Phong San from the specimens *Dakaw Phong San 001*.

to caudate, apex acute to acuminate, base obtuse, pale green to white, red at base, glabrous; lower sepal  $17-18 \times 4-5$  mm,  $3.5-4.5$  mm deep, navicular, apex acuminate and mucronate, pink, with yellow patch at base, and green tip, glabrous, distal part abruptly constricted into a slightly incurved spur,  $20-45$  mm long, pink to red with green tip. *Petals* 5; dorsal petal  $1.5-1.9 \times 1.5-1.9$  cm, orbicular, suborbicular, to obcordate, apex round to slightly cordate and mucronate, base round, pink, glabrous, abaxial midvein simple or with a narrow crest in the lower-half, ca 1 mm wide, green; lateral united petals  $2.8-3$  cm long, free; the upper petals  $1.5-1.7 \times 1-1.3$  cm, obliquely obovate to broadly triangular, apex truncate, base cuneate, pink, glabrous; the lower petals  $2.8-3 \times 1-1.1$  cm, free, obovate to obliquely triangular, apex shallowly bilobed, pink with white

at base, with yellow auricles, ca 1 mm long. *Stamens* 5; filaments ca 5 mm long, pink with red dots; anthers pale pink. *Pollen* pink. *Ovary* ca 4 mm long, ca 1.5 mm in diam., 5-carpellate, green, glabrous. *Fruits*  $3-3.5$  cm long,  $1-1.2$  cm in diam., fusiform, 5-lobed, green, glabrous; fruiting pedicel  $3.5-3.8$  cm long, sparsely pilose. *Seeds* many, more than 60 seeds/capsule.

*Distribution*.— Bhutan, NE India (Arunachal Pradesh, Assam, Meghalaya, Nagaland, Sikkim), N Myanmar.

*Habitat and ecology*.— Growing along the roadside in open areas; 800–850 m elevation. Temperate evergreen forest.

*Phenology*.— Flowering and fruiting in May–June.

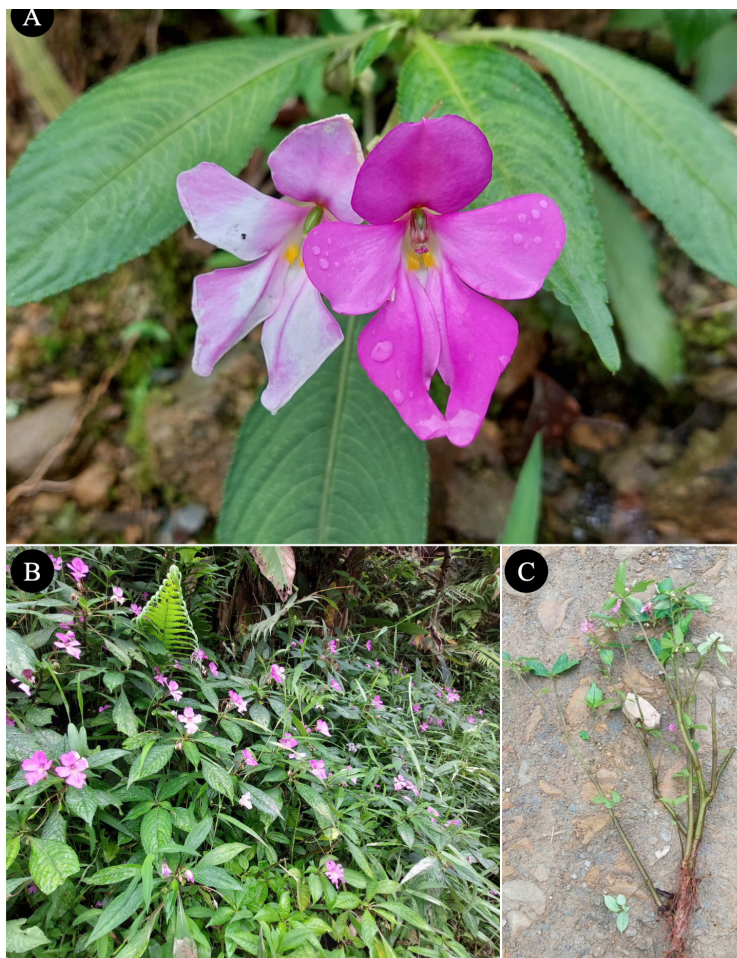


Figure 2. *Impatiens latiflora* Hook.f. & Thomson: A. flowers; B. habitat; C. habit. Photographs by Dakaw Phong San from the specimens Dakaw Phong San 001.

Vernacular name.—Pham Garam (Naga tribes).

Specimens examined.—MYANMAR: Sagaing Region, Naungyan Village, Pangsau (27°12'35.2"N 96°11'33.6"E), 834.7 m elevation, 30 May 2022 (fl. & fr.), *Dakaw Phong San 001* (University of Myitkyina!, **RAF!**, **RANG!**). INDIA: Dapla, s.d., *Booth s.n.* (**K** [K000694821!]); Assam and Khasia, Hills, *Simons s.n.* (**L** [L0389071!]); Assam: *King's Collector s.n.* (**L** [U1149135!])

Preliminary conservation status.—Least Concern (LC) based on the IUCN red list categories and criteria (IUCN, 2012). This species was found in many localities from Sikkim (India) to Myanmar (Hooker, 1905; Gogoi *et al.* 2018), and has an Estimated Extent of Occurrence (EOO) is 150,100 km<sup>2</sup> (GeoCAT, Bachman *et al.* 2011). In addition, more than 1,000 mature individuals found in Sagaing, Myanmar (pers. comm.).

Note.—*Impatiens latiflora* differs from other species in Myanmar by having a combination of racemose inflorescence with a flat-type flower and fusiform capsule. The population in Myanmar is different from the population in India in sizes and overlapping in number of some characters, e.g. number of flowers in inflorescence (3–6 flowers versus 2–3 flowers), length of leaves (11.5–19 versus 7–18 cm), lateral veins number (10–13 veins versus 6–14 veins).

## REFERENCES

- Akiyama, S., Aung, M.M. & Tanaka, N. (2018). A new variety of *Impatiens radiata* Hook. f. from Myanmar. Bulletin of the National Museum of Nature and Science, Ser. B, 44(4): 159–163.
- Bachman, S., Moat, J., Hill, A.W., de la Torre, J., Scott, B. 2011. Supporting Red List threat assessments with GeoCAT: geospatial conservation assessment tool. In: V. Smith. & L. Penev (Eds) e-Infrastructures for data publishing in biodiversity science. ZooKeys 150: 117–126. (Version BETA)\*
- Ding, H.B., Yang, B., Zhou S.S., Maw, M.B., Maung, K.W. & Tan, Y.H. (2019). New contributions to the Flora of Myanmar I. Plant Diversity 41: 135–152.
- Gogoi, R., Borah, S., Dash, S.S., Singh, P. (2018). Balsams of Eastern Himalaya - A regional revision: Botanical Survey of India. 1–215.
- Hooker, J.D. (1905). An epitome of the British Indian species of *Impatiens*. Part 2. Records of the Botanical Survey of India 4: 11–35.
- IUCN (2012). IUCN Red List Categories and Criteria, Version 3.1. Second edition. International Union for Conservation of Regional and Natural Resources, Gland, Switzerland and Cambridge, UK.
- Kress, W.J., DeFilipps, R.A. & Kyi, D.Y.Y. (2003). A checklist of the trees, shrubs, herbs, and climbers of Myanmar. Contributions from the United States National Herbarium 45: 1–590.
- Ruchisansakun, S., Suksathan, P., Van der Niet, T., Saw-Lwin & Janssens, S.B. (2017). *Impatiens tanintharyiensis* (Balsaminaceae), a new species from southern Myanmar. Phytotaxa 296 (2): 171–179.
- Ruchisansakun, S., Suksathan, P., Van der Niet, T., Smets, E.F., Saw-Lwin & Janssens, S.B. (2018a). Three new species of *Impatiens* (Balsaminaceae) from Myanmar. Phytotaxa 338 (1): 63–74.
- \_\_\_\_\_. (2018b). Balsaminaceae of Myanmar. Blumea 63: 199–267.
- Singh, R.K., Borah, D. & Taram, M. (2021). Typifications, new combinations and new synonyms in Indian *Impatiens* (Balsaminaceae). Biodiversity Research and Conservation 61: 1–27.
- Tanaka, N., Sugawara, T., Aung, M.M. & Murata, J. (2015). *Impatiens kingdon-wardii* (Balsaminaceae), a new species from Mt. Victoria (Natna Taung), Myanmar. Phytotaxa 234: 90–94.
- Tanaka, N., Ohi-Toma, T., Ito, Y., Aung, M.M. & Murata, J. (2018). New or Noteworthy Plant Collections from Myanmar (10): *Impatiens hukaungensis* (Balsaminaceae), a new Rheophyte from the Northern Region. The Journal of Japanese Botany 93(1): 23–30.
- Tanaka, N., Aung, M.M., & Vermeulen, J.J. (2022). *Impatiens katjae*, a New Species of *Impatiens* (Balsaminaceae) from Central Myanmar. Novon 30(1): 56–60.
- Yu, S.X., Janssens, S.B., Zhu, X.Y., Lidén, M., Gao, T.G. & Wang, W. (2015). Phylogeny of *Impatiens* (Balsaminaceae): integrating molecular and morphological evidence into a new classification. Cladistics 32: 1–19.