Taiwania, 58(4): 311–315, 2013
DOI: 10.6165/tai.2013.58.311

NOTE

Rediscovery of *Impatiens laevigata* var. *grandifolia* (Balsaminaceae) from NE India

R. Gogoi[1*], H. A. Barbhuiya[2] and S. Borah[1]

1. Botanical Survey of India, Arunachal Pradesh Regional Centre, Senki View, Itanagar–791111, Arunachal Pradesh, India. E-mail: souravjyotiborah@gmail.com
2. Botanical Survey of India, Eastern Regional Centre, Shillong–793003, Meghalaya, India. E-mail: hussainbsi@yahoo.com
** Corresponding author. E-mail: rajibdzuko@gmail.com*

(Manuscript received 20 December 2012; accepted 16 August 2013)

ABSTRACT: *Impatiens laevigata* var. *grandifolia* Hook.f. rediscovered after a lapse of 139 years from Lohit district of Arunachal Pradesh. Earlier it was known only – from its type locality in Manipur. Detailed morphological description of *I. laevigata* var. *laevigata* and var. *grandifolia* have been provided based on fresh plant collections.

KEY WORDS: *Impatiens laevigata* var. *grandifolia,* rediscovery, Arunachal Pradesh, NE India.

INTRODUCTION

Hooker (1910) described a new variety of *Impatiens laevigata* Wall. ex Hook.f. & Thomson i.e. *I. laevigata* var. *grandifolia* Hook.f. based on a collection of A. Meebold in 1907 from Manipur. Prior to Meebold, R.L. Keenan in 1873 also collected the same plant from Doorbund Pass located in Cachar district of Assam. Afterwards this variety remained in obscurity and it was not even included by Vivekananthan et al. (1997) in the 'Flora of India'.

Recently in 2012 during a plant exploration in Lohit district, Arunachal Pradesh, two of us (RG and SB) came across a small population of balsam. Subsequent study accompanied by the examination of the type specimen of *I. laevigata var. grandifolia* deposited at K (*A. Meebold 6272,* image!) revealed that the plants are of *I. laevigata* var. *grandifolia.* It has been rediscoverd after a lapse of 139 years from Lohit District of Arunachal Pradesh. Earlier it was known only from its type locality in Manipur. One of us (HAB) collected the typical variety *laevigata* from 15 No hill, Borail Wild Life Sanctuary in the Cachar district of Assam. Thus we have studied both the varieties in living condition.

The morphological description based on fresh plant collection and other relevant data pertaining to *I. laevigata* var. *laevigata* and var. *grandifolia* are given as follows:

TAXONOMIC TREATMENT

Impatiens laevigata Wall. ex Hook.f. & Thomson in J. Proc. Linn. Soc., Bot. 4: 146. 1860 [Type: Sillet, 1820, *Wall. Cat. Num. list no.* 4753(K 000694815, image!)]; Hook.f., Fl. Brit. India 1: 473. 1875; Vivek. *et al.* in Hajra *et al.* (eds.), Fl. India 4: 167, 1997; A.S.Chauhan in N.P.Singh *et al.* (eds.), Fl. Manipur 1:19. 2000.

Impatiens laevigata var. ***laevigata*** Fig. 1

Much branched shrub, up to 1 m tall. Stem terete, rough, succulent, lower portion woody, greenish red to dull green, lenticelate, upper portion with minute white dots, glabrous. Leaves alternate, crowded together at the apex of stem, elliptic or oblanceolate to narrowly oblanceolate, 7.5–19 × 4–6.5 cm, acute to caudate-acuminate at the apex, attenuated or cuneate at base, shallowly serrate along the margins with teeth shortly appendaged, pale green to dark green above, pale green beneath; lateral nerves 5–8 pairs, raised on lower side; petiole 3–7 cm long. Inflorescence 1–4 flowered, axillary, subumbellate. Peduncles slender, 0.8–1 cm long. Bracts 1–2, green, ovate, 0.4–0.5 × 0.3–0.4 cm, containing two lateral teeth on both sides, acute at apex. Flower yellowish white, tinged with pink. Pedicel 1.5–2 cm long. Sepals 4, outer two orbicular, 1.1–1.2 × 0.3–0.4 cm, greenish yellow, 5-nerved, minutely 2–4-toothed, obtuse; inner two falcate, 1.4–1.6 × 0.3–0.4 cm, pale yellow. Upper petal (standard) reniform, 1.5–1.6 × 2.2–2.3 cm, yellow, cuspidate at apex, truncate at base, 1-keeled. Lateral united petal pinkish yellow, 2-lobed; basal lobe suborbicular, 1.1–1.2 cm in diam.; distal lobes rectangular *c.* 1.5 × 0.7 cm, streaked with red lines, slightly emarginate or 2–lobed at apex, abaxial auricale reflexed. Lower sepal (lip) broadly funnel shaped; mouth 1.3–1.4 cm wide, red inside; base narrowed

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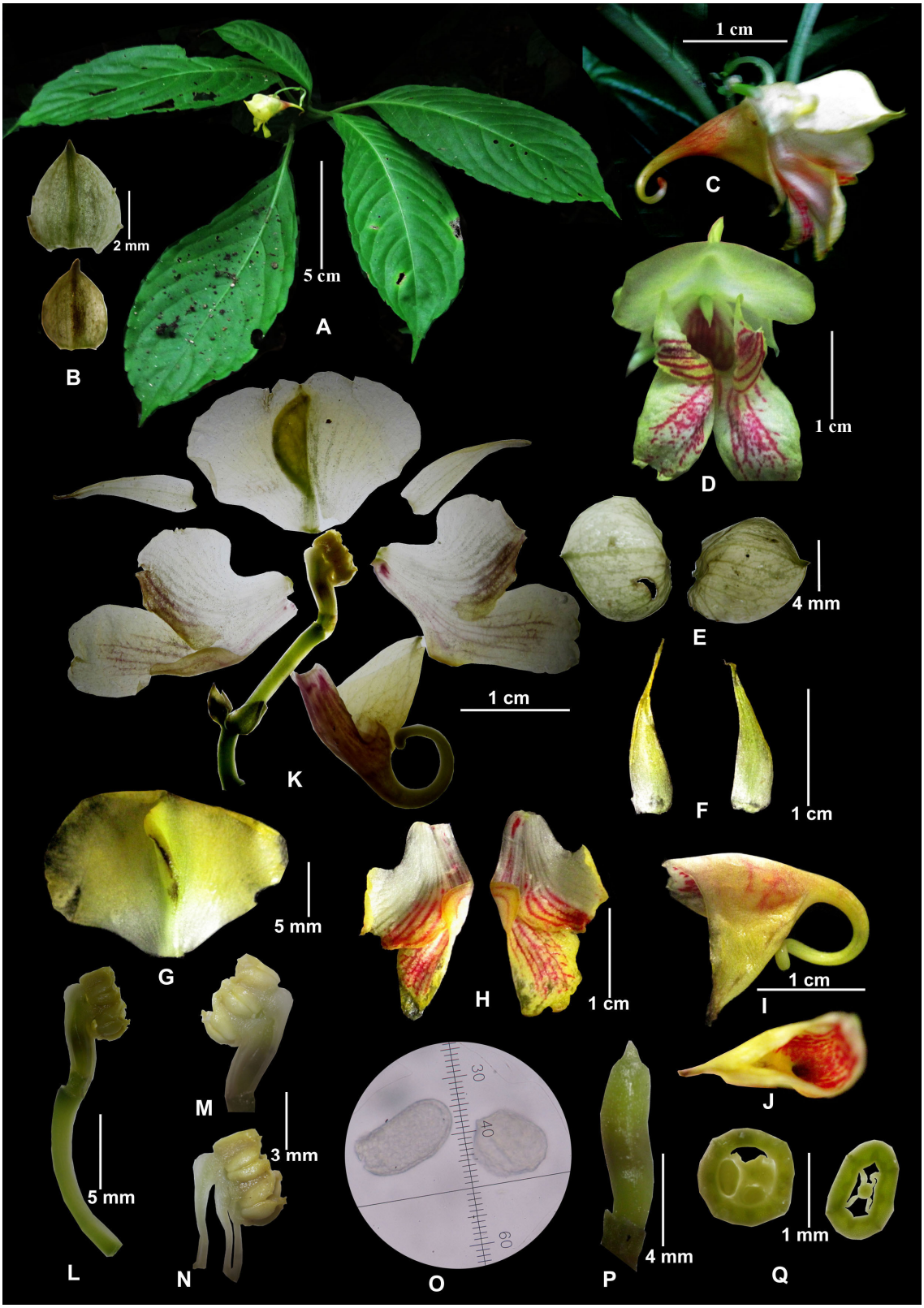


Fig.1. ***Impatiens laevigata var. laevigata*****. A: Flowering twig. B: Bracts. C: Flower – lateral view. D: Flower–frontal view. E: Outer lateral sepals. F: Inner lateral sepals. G: Upper petal (standard). H: Lateral united petal. I–J: Lip with spur. K: Floral perigion. L: Column with pedicel. M–N: Stamens. O: Microscopic field showing pollens. P: Ovary. Q: T.S of ovary.**

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down into an incurved spur, 1.6–2.2 cm long, yellow. Stamens 5; anthers obtuse joined in a ring around the apex of the ovary, 2.2–3.8 × 1.8–2 mm; filaments narrow at the base and broader at the apex, 6–7 mm long, free at the middle. Pollens mostly elliptical, *c.* 183 × 100 µm; surface verrucose. Ovary superior, cylindrical, *c.* 5.5 × 1.5 mm, 4-chambered: placentation axile; style short, *c.* 0.7 mm long. Capsule linear, *c.* 3 × 0.6 cm, green, ridged.

Flowering & Fruiting: September–December.

Distribution: India [Arunachal Pradesh (Changlang, Kameng, Siang, Subansiri), Assam (Cachar), Manipur, Meghalaya (Khasi Hills), Sikkim], Bangladesh, Nepal, Myanmar.

Specimen examined: **INDIA.** Assam, Cachar, Borail Wild Life Sanctuary, Kalain Range, 15 No Hill, 25º01´26.24´´ N and 92º37´40´´E, *c.* 197 m, 11.11.2011, *H.A. Barbhuiya 802* (ASSAM).

Impatiens laevigata var. ***grandifolia*** Hook.f., Bull. Misc. Inform. Kew 1910: 299. 1910, [Type: Manipur, Barak, *c.* 4000 ft. (1220 m), Nov 1907, *A. Meebold 6272* (K 000694813, image!)], A.S.Chauhan in N.P.Singh *et al.* (eds.), Fl. Manipur 1: 198. 2000. Fig. 2

The variety *grandifolia* differs from var. *laevigata* in having oblong, entire, aristate bract; arista usually more than half as long as lamina; long winged petiole; 4–5 times long peduncle. Flowers with sub–ovate outer sepal; comparatively longer inner lateral sepal; whitish-green upper petal (standard) instead of yellow as in var. *laevigata*. Lateral united petals with triangular basal lobe and obovate distal lobe in which red lines disappear before reaching to the middle and presence of hook shaped spur.

Flowering & Fruiting: July–September.

Distribution: Endemic to NE India [Assam (Cachar), Manipur (Barak), Arunachal Pradesh (Lohit)].

Specimens examined: **INDIA.** Cachar, Doorbund Pass, Sept. 1873, *R.L. Keenan s.n.* (K 000694814, image!); Arunachal Pradesh, Lohit District, Salangam to Tidding, 750 m, July 2012, *R. Gogoi & S. Borah 24643, 24667* & *24682* (ARUN).

ACKNOWLEDGEMENTS

The authors are thankful to Dr. P. Singh, Director, Botanical Survey of India, Kolkata, to Dr. A.A. Mao, Scientist 'E' & HOO, Arunachal Pradesh Regional Centre, BSI, Itanagar, Dr. B.K. Sinha, Scientist 'E' & HOO, Eastern Regional Centre, BSI, Shillong for encouragement and facilities. The authors are also thankful to Dr. S. Bandyopadhyay, Central National Herbarium, BSI, Howrah for his helpful suggestions. The image of the herbarium specimens at K have been taken from 'The herbarium Catalogue (2006). Published on Internet http://www.kew.org/herbcat [05.07.2012]'

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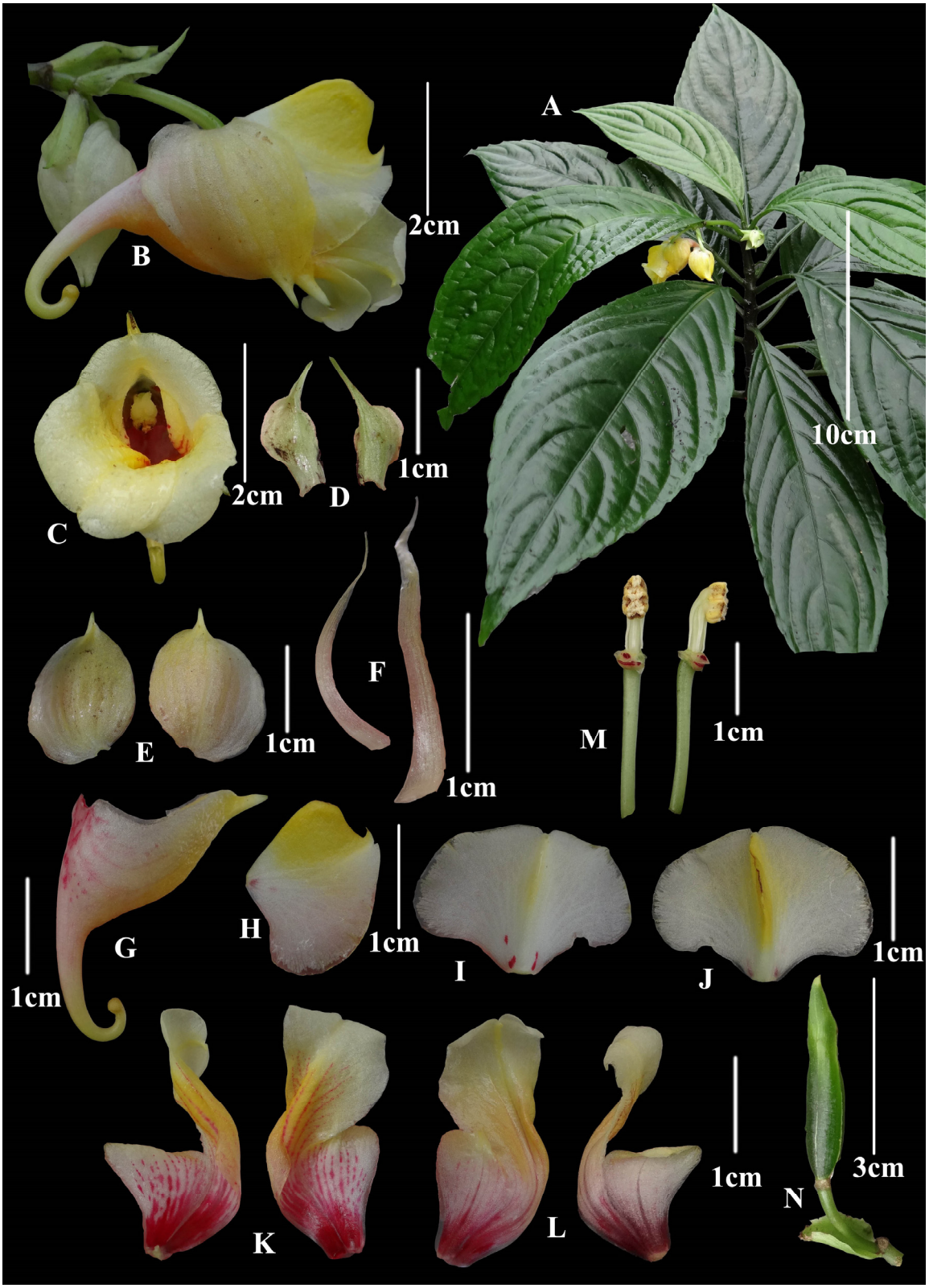


Fig. 2. ***Impatiens laevigata*** **var.** ***grandifolia.*** **A: Flowering twig. B: Lateral view of flower. C: Front view of flower. D: Dorsal and ventral view of bract. E–F: Lateral sepals. G: Lower sepal (lip). H: Upper petal (standard) lateral view. I: Ventral view of upper petal. J: Dorsal view of upper petal. K: Ventral view of lateral united petals. L: Dorsal view of lateral united petals. M: Androecium. N: Capsule.**

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Impatiens laevigata var. *grandifolia*（鳳仙花屬）於印度西北的再發現

R. Gogoi[1*], H. A. Barbhuiya [2] and S. Borah[1]

1. Botanical Survey of India, Arunachal Pradesh Regional Centre, Senki View, Itanagar–791111, Arunachal Pradesh, India. E-mail: souravjyotiborah@gmail.com
2. Botanical Survey of India, Eastern Regional Centre, Shillong–793003, Meghalaya, India. E-mail: hussainbsi@yahoo.com
* 通信作者。*Email: rajibdzuko@gmail.com*

(收稿日期：2012年12月20日；接受日期：2013年08月16日)

摘要：本文報導了*Impatiens laevigata* var. *grandifolia*的再發現，本種為印度西北的特有種，並於首次發表的139年後再度於阿魯納恰爾邦發現。本文也提供了彩色圖片與近似種var. *laevigata*及var. *grandifolia*的分類比較以供辨別。

關鍵詞：*Impatiens laevigata* var. *grandifolia*、再發現、阿魯納恰爾邦、西北印度。

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