

TAXONOMY AND DISTRIBUTION OF *IMPATIENS TALBOTII* - A RARE ENDEMIC BALSAM FROM WESTERN GHATS

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ABSTRACT

The paper deals with a rare and poorly known species of balsam, viz. *Impatiens talbotii* Hook. f. from the Western Ghats. The historical account, a detailed description, distribution and illustrations based on fresh specimens are provided.

INTRODUCTION

The genus *Impatiens* L. (Balsaminaceae), a highly diversified genus is represented in India by around 209 species. Western Ghats, one of the 34 biodiversity hotspots of the World harbours about 90 species of *Impatiens*, most of which are narrow endemics. *I. talbotii* Hook. f. is one such narrow endemic so far reported only from North Kanara and Shimoga districts of Karnataka along the Central Western Ghats. It appears in Red Data Book of Indian plants as a rare endemic species that is represented by few old collections (Singh & Kulkarni, 1990). The description available in literature is very meagre and floral details were never illustrated. Hence, an attempt has been made in this paper to bring historical account, elaborate descrip-

tion and illustration of the little known endemic species.

Impatiens talbotii was described by Hooker in 1906 based on Talbot's collection from Devimane ghat in North Kanara district. However, he did not provide any description and illustration while publishing this species. Later, during the revision of Balsaminaceae for the Presidency of Bombay, Blatter (1933) accessed Law's (s. n. - N. Kanara), Talbot's (3722 - Devimane Ghat) and Meebold's (6960 - Castle Rock) collections and included the description from Hooker's manuscript supplied by C. E. C. Fischer of the Kew Herbarium. Subsequently this species was collected from Jog falls (North Kanara) and Agumbe (Shimoga) by Bhaskar (Bhaskar & Razi.

1978). In Indian herbaria the species is known only by four collections. Due to its narrow distribution and representation by few collections in herbaria it has been designated as rare (Singh & Kulkarni, 1990; Nayar, 1996).

During the course of studies the present authors have collected the species from Jog falls after a lapse of 33 years since Bhaskar's collection from the same locality in 1972. Recent collection of this species from Goa by authors shows its extended distribution from Karnataka. Hooker did not provide any description or illustration while publishing *I. talbotii* as new species and the description available in Floras is scanty and inadequate. Hence, a detailed description and illustrations of the species based on fresh specimens is provided.

Impatiens talbotii Hook. f. in Rec. Bot. Surv. India 4: 42, 47. 1906 ex Blatter in J. Bombay Nat. Hist. Soc. 33: 314. 1933; Sharma *et al.* Fl. Karnataka 39. 1984; Ahmedullah & Nayar, Endemic plants of the Indian region 1: 194. 1986; Singh & Kulkarni in Nayar & Sastry, Red Data Book 3: 63 t. 64. 1990; Saldanha, Fl. Karnataka 2: 259. 1996; Vivekananthan *et al.* in Hajra *et al.* Fl. India 4: 214. 1997.

Herb, up to 60 cm high. Stem terete, flaccid, glabrous, swollen at the nodes, branched. Leaves alternate, crowded at the apex, petiolate; petiole 2 - 2.5 cm long, with 3 - 5 pairs of petiolar glands, hairy on either side. Lamina lanceolate, up to 14 x 5.3 cm, cuneate at base, crenate and ciliate along margins, acute to acuminate at apex, crenae apiculate, adaxial surface hairy, abaxial surface densely hairy on the nerves and glabrous to sparsely hairy on the rest surface. Flowers axillary, 2-4 in each axil, pink with purple centre, up to 2.5 cm across, up to 3 cm long; bracts linear-lanceolate, ca 3 x 1 mm, glabrous, hairy along the margins in the upper half, apically acute;

pedicels up to 2 cm long, slender, glabrous to hairy, deflexed in fruits. Lateral sepals 2, ovate to linear-lanceolate, up to 2.5 x 1 mm, green in colour, sparsely hairy on the dorsal surface, mid vein distinct, entire along margins, acute at apex; standard orbicular, up to 7 x 8 mm, pink within, white outside, dorsally keeled, keeled portion green in colour, apically cordate, costa mucronate, hairy, mucro green; wing petals 2, bilobed, up to 1.5 x 1 cm, lobes unequal; basal lobe ca 9 x 5 mm, oblong to oblong-lanceolate, bilobulate, apically apiculate; distal lobe larger than the basal lobe, up to 1.3 x 0.5 cm, assymmetrically obovate, bilobulate, dorsal auricle absent, base of the wing petal is bent at the spur region thus giving the appearance of an auricle; lip conical, light pink in colour, glabrous to sparsely hairy, spurred; spur tubular, curved, white to light pink in colour, up to 3 cm long, glabrous to hairy, tip rounded. Column up to 3.5 x 2 mm, bent on one side. Filaments 5, up to 2.5 mm long, free and narrow at the base, fused and broad at the apex, pink in colour; anthers 5, fused, ca 1.5 mm wide, white to light pink in colour, forming a hood above the ovary. Pistil ca 3 mm long; ovary elliptic-lanceolate, ca 2 mm long, glabrous; style absent; stigma 5-toothed, each tooth ca 1 mm long. Fruit assymmetrically lanceolate, up to 1.5 x 0.7 cm, tomentose, stigma persistent, pedicel up to 3 cm long. Seeds ovate, papillate, up to 4 x 2.5 mm, brown, flattened. (Fig. 1)

Flowering and fruiting: August - November.

Habitat: Grows on either side of the narrow steep path/footsteps leading to the base of the Jog falls (Karnataka) and along the road side near water falls at Gaondongri (Goa).

Note: The species occurs in vulnerable habitat as thousands of tourists flock Jog falls during the monsoons. As the flowers are attractive people are seen plucking the flowers and breaking the twigs thus putting the plant in a precarious position. Hence, measures should be taken for its conservation.



Fig. 1. *Impatiens talbotii* Hook. f.: A. Twig, B. Flower, C. Bract, D. Lateral sepals, E & F. Standard, G. Wing petals, H. Lip, I. Column, J. Androecium, K. Pistil, L. Capsule, M. Seed.

Potential value: The plant is worth introducing in gardens as an ornamental for its beautiful flowers.

Specimens examined: Karnataka : Devimane ghat, 02.11.1903, W.A. Talbot s.n. (BSI); Castle rock, s.d. A. Meebold s.n. (CAL); Jog falls, 05.11.1972, V. Bhaskar 341 (MGM); Agumbe ghat, 06.11.1972, V. Bhaskar 342 (MGM); Jog falls, 06.08.2005, Jyosna R.N. Dessai 37 (Goa University Herbarium); 06.09.2005, Jyosna R. N. Dessai & M.K. Janarthanam 93 (Goa University Herbarium); Goa: Gaodongri, Bharsa, along roadside near Baman buda waterfalls, 12. 08. 2007, M.K. Janarthanam 163 (Goa University Herbarium).

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