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Impatiens capillipes (Balsaminaceae), a new record for Thailand

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ABSTRACT

Impatiens capillipes was found for the first time in Thailand. The population in Thailand has slightly larger leaves and flowers than the population in Myanmar. An expanded description of this species and colour photographs are provided.

KEYWORDS: Balsam, *Impatiens*, Lithophytic, Myanmar, Thailand.

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INTRODUCTION

Sixty-two native *Impatiens* L. species have been reported in Thailand (Shimizu, 1970, 1977, 1991, 2000; Shimizu & Suksathan, 2004; Suksathan & Triboun, 2009; Ruchisansakun *et al.*, 2014; Ruchisansakun & Suksathan, 2019). In September 2019, the first author took part in an expedition to Tak province and found *I. capillipes* Hook.f. & Thomson which was reported as endemic to Myanmar with a detailed description and illustration in Ruchisansakun *et al.* (2018). Here we formally report this species as native to Thailand and provide additional details for it.

DESCRIPTION

Impatiens capillipes Hook.f. & Thomson, J. Proc. Linn. Soc., Bot. 4: 135. 1860; Hook.f., Fl. Brit. India 1: 456. 1875; Rec. Bot. Surv. India 4: 26. 1905; Kress *et al.*, Contr. U.S. Nat. Herb. 45: 169. 2003; Ruchisansakun *et al.*, Blumea 63: 214. 2018. Type: Myanmar, Moulmein (Mawlamyine district), 1892, *Lobb 388* (lectotype **K** [K000694718!], designated by Ruchisansakun *et al.* (2018); isolectotype **K** [K000694717!]). Figs. 1–2.

Lithophytic, annual herb, 25–40 cm high. *Stem* erect, 2–8 mm in diam., angular, many-branched, upper part slightly zig-zagged, green to purple. *Leaves* spirally arranged; petioles 8–15 mm long, 1–1.5 mm in diam., angular, green to purple; lamina 45–140 × 9–30 mm, narrowly ovate to lanceolate, apex acute to acuminate, base obtuse to attenuate, margin serrate to crenate, adaxial dark green, abaxial glaucous; lateral veins 12–14 pairs on each side of midrib; extra-floral nectaries present, green or purple with clavate gland on each side of margin at or near base. *Inflorescence* racemes, axillary, 2–4-flowered, slightly pendulous; peduncle absent or up to 2 mm long, < 1 mm in diam., green; rachis < 1 mm long. *Flowers* zygomorphic, 7–12 × 7–10 mm, 4–5 mm deep, non-resupinate, white with pink and yellow marks; bracts < 1 × 1 mm, lanceolate, apex acute, base cuneate, green. *Pedicel* ca 8 mm long, <1 mm in diam., green to purple. *Sepals* 3; lateral sepals 2, 1.5–2.5 × 1–2 mm, free, ovate to elliptic to obliquely ovate, apex acute, base obtuse, pale green; lower sepal 3–5 × 2.5–3 mm, 2–3 mm deep, shallowly navicular, margin laterally recurved, apex strongly recurved, white with yellow mark, red dots present at base, distally constricted into an upward incurved spur, 1.5–2 mm long, green to white with green tip.

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Petals 5; dorsal petal 5–8 × 2–3 mm, oblong to ovate-oblong, flat to slightly curved, apex acute to acuminate, base cuneate, white; lateral united petals slightly connate by thin tissue, upper pair 5–7.5 × 2–3 mm, ovate, apex acuminate to aristate, base obtuse, white, lower pair 2.5–3.5 × 1–1.5 mm, connate by thin tissue, ovate, apex acuminate to aristate, white with purple spots at the base. *Stamens* 5; filaments ca 2 mm long, pink; anthers purple. *Ovary* 1.5–2 mm long, up to 1 mm in diam., 4-carpellate, white to green. *Fruits* 6–8 mm long, 2.5–3 mm in diam., clavate, 4-lobed, green to purplish green. *Seeds* 4–8, ellipsoid, brown.

Distribution.— Myanmar (Mon and Kayin states).

Habitat and ecology.— Growing on limestone in mixed deciduous forest, alt. 10–100 m (Fig. 1C). The population in Thailand co-occurs with *Impatiens patula* Craib and *Curcuma roscoeana* Wall. and flowers during the same period.

Figure 1. *Impatiens capillipes* Hook.f. & Thomson: A. front view of flowers and leaves; B. lateral view of flower; C. natural habitat; D. pollinator.

Figure 2. *Impatiens capillipes* Hook.f. & Thomson: A & B. young flowers; C–F. lateral united petals and lower sepals; G & H. lateral sepals; I–L. lower sepals; M–O. dorsal petals; P & Q. lateral united petals; R. pedicel and stamens; S. fruit.

Phenology.— Flowering & fruiting period September–December.

Common name.— Thian pi sat noi (เทียนปีศาจน้อย) (Little monster balsam).

Specimens examined.— THAILAND: Tak [Tha Song Yang district, Mae Usu cave, 17°18′12.748″N 98°09′19.342″E, 16 Sept. 2019 (fl. & fr.), *Ruchisansakun & Thawara 1358* (**BK**, **BKF**, **QBG**)]. MYANMAR: Kayin state [Hpa-An, Hae Pyan cave, 16°50′08.0″N 97°34′13.0″E, alt. 10 m, 18 Oct. 2015 (fl. & fr.), *Ruchisansakun & Thet Yu Nwe 744* (**L**, **RAF**, **YNG**), Hpa-An, 16°44′59.8″N 97°47′04.8″E, 20 Oct. 2015 (fl. & fr.), *Ruchisansakun & Thet Yu Nwe 749* (**L**, **RAF**, **YNG**)], Mon state [Moulmein, -1846, *Lobb 368* (**K** [K000694716]); -1862; *Parish 454* (**K**); -1862; *Parish s.n.* (**P** [P04614864]).

Pollination ecology.— The first author observed bees (*Megachile* sp., identified by Pornpimon Tangtorwongsakul, an entomologist) landing on the flowers, consuming nectar and carrying pollen on their ventral abdomens and legs (Fig. 1D).

Preliminary conservation status.— Endangered B2ab (ii, iii). This species was only found at three localities, the Area of Occupancy was estimated to be less than 500 km^2 and all populations are confined to a very small area close to a village.

Note.— The population of *Impatiens capillipes* in Thailand has slightly larger leaves and flowers than the population in Myanmar. In addition, the stem and petiole is green, not purple as in the Myanmar populations, and the colour of the flowers is slightly paler than those in the Myanmar populations.

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