



## *Impatiens jangjeonense* (Balsaminaceae), a new species from South Korea

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### Abstract

*Impatiens jangjeonense* (Balsaminaceae), a new species is reported from the mountainous regions of Gangwon-do province in South Korea. The plant shows morphological affinities with *I. hambaeksanensis* by means of elliptic or rhomboid-elliptic leaf blade, racemose inflorescence with erect rachises, and white or pinkish-white flower with yellowish and purplish spots, but differs from the latter by bigger flower 1.6–3.9 × 1.1–2 cm vs. 2–2.6 × 1.1–1.6 cm, and spur tip mainly 1- or 2-coiled and deeply biparted vs. mainly non-coiled and slightly biparted. Detailed description of the species along with its colored photographs are provided.

**Key words:** Baekdudaegan mountains, Gangwon-do, Morphology, Spur tip, Taxonomy

### Introduction

The family Balsaminaceae comprises the monotypic genus *Hydrocera* Blume ex Wight & Arnott (1834: 140) and the genus *Impatiens* Linnaeus (1753: 937). The genus *Impatiens* consists of more than 1,000 species distributed mainly in tropical and subtropical regions, with five hotspots, viz. tropical Africa, Madagascar, southern India and Sri Lanka, the eastern and western Himalayas, and Southeast Asia (Song *et al.* 2003; Yuan *et al.* 2004; Raskoti & Ale 2022; POWO 2024).

In Korea, six species of *Impatiens* have been identified. Three species, *I. textorii* Miquel (1865: 76), *I. nolitangere* Linnaeus (1753: 938), and *I. furcillata* Hemsley (1886: 101) were reported in the earliest study on Korean *Impatiens* (Forbes & Hemsley 1886). More recently, *I. atrosanguinea* Oh & Hong (1993: 253) was also identified as a putative Korean *Impatiens* species (Hong & Oh 1993; Oh & Hong 2001), and was added to the list of Korean *Impatiens* species in 2017 (Chang *et al.* 2017). In 2010, *I. violascens* Kim *et al.* (2010: 59) was reported as another Korean *Impatiens* species. Concurrently, Ji *et al.* (2010) intensively re-investigated the taxonomy of *I. furcillata* and updated its initial Korean name “San-mul-bong-seon” to “Cheo-jin-mul-bong-seon”. Ji *et al.* (2010) also noted that some *Impatiens* populations found in Korea, China, and Russia, with smaller plant size than *I. textorii*, need to be identified and further investigated. During their field study in Mt. Hambaeksan, Oh *et al.* discovered a population of *Impatiens* whose features were consistent with previous observations made by Ji *et al.* and named this population “*Impatiens hambaeksanensis* B.U.Oh (San-mul-bong-seon)” (Oh *et al.* 2022).

The authors of the present study recently identified another *Impatiens* species with large white or pinkish-white flowers which are 1.6–3.9 cm long, and whose distribution overlaps with that of *I. hambaeksanensis* Oh *et al.* (2022: 141). This species was initially found at Jangjeon Valley in Mt. Gariwangsan of Gangwon-do, South Korea. On comparing the specimen with all known *Impatiens* in Korea and surrounding regions, we conclude that it is undescribed and hereby, we describe it new to science.

## Materials and methods

The morphology of *I. jangjeonense* was investigated using dried specimens, immersion specimens in 70% ethyl alcohol, and living plants collected from the type locality and other habitats. The plants with the typical traits in the habitats were dried for preservation. Dried specimens from the herbarium of the National Institute of Biological Resources (KB) and the herbarium of the Korean National Arboretum (KH), were mainly utilized to determine the variation ranges of the traits (acronyms after Theirs 2022). The macro-characteristics, such as plant height or flower shape, were closely observed and photographed in the habitats. The micro-characteristics were observed using a light microscope (ECLIPSE E600; Nikon, Japan) and a stereoscopic microscope (LEICA MZ7<sub>5</sub>; Leica, Germany). Relevant literature and herbarium specimens from KB and KH were consulted to identify the morphological differences between the new species and other *Impatiens* species (Hong & Oh 1993; Ji *et al.* 2010; Kim *et al.* 2010; Oh *et al.* 2022; Yu *et al.* 2022).

## Taxonomic treatment

### *Impatiens jangjeonense* B.U.Oh *sp. nov.* (Figs 1, 2 and 4)

**Diagnosis:**—*I. jangjeonense* shows affinities with *I. hambaeksanensis* but differs from it by having a lateral sepal white, whitish pink or pinkish-purple (*vs.* brownish-white or rarely whitish-green), a larger standard petal (10.6–14.7 × 10.6–19.2 mm *vs.* 4.8–5.1 × 5.4–6 mm), longer wing petals (15.9–24.1 mm *vs.* 9.5–13 mm), longer anthers (1.4–2 mm *vs.* ca. 1 mm), a longer ovary (2.5–2.9 mm *vs.* 2.2–2.4 mm), and a larger spur tip (1.2–1.4 × 0.7–1 mm *vs.* 0.4–0.6 × 0.4–0.7 mm) which is 1-coiled or 2-coiled and rarely non-coiled (*vs.* non-coiled to rarely 1-coiled), and is deeply biparted (*vs.* slightly biparted) (Table 1).

**TABLE 1.** Morphological differences between *I. jangjeonense* and *I. hambaeksanensis*.

Characters	<i>I. jangjeonense</i>	<i>I. hambaeksanensis</i>
Rachis length	7–16 cm long	4–10 cm long
Flower length (cm)	1.6–3.9 cm long	2–2.6 cm long
Lateral sepal	white, whitish-pink or pinkish-purple	brownish-white or rarely whitish-green
Lower sepal	1- or 2-coiled, rarely non-coiled, 14–33 mm long	non- to rarely 1-coiled, 10–18 mm long
Spur	ellipsoid, expanded, deeply biparted, 1.2–1.4 × 0.7–1 mm	spheroid or ellipsoid, expanded, slightly biparted, 0.4–0.6 × 0.4–0.7 mm
Standard petal	10.6–14.7 × 10.6–19.2, white or pinkish-white	4.8–5.1 × 5.4–6, white or brownish-white
Wing petal	15.9–24.1 mm long	9.5–13 mm long
Basal lobe	4.3–5.6 × 2–3.2 mm	2.5–4 × 1–2 mm
Distal lobe	11.2–17.8 × 6.9–11 mm	7–11 × 3.8–4.4 mm
Anther	1.4–2 mm long	ca. 1 mm long
Ovary	2.5–2.9 mm long	2.2–2.4 mm long

**Type:**—Korea. Province Gangwon-do: Pyeongchang-gun, Jinbu-myeon, Jangjeon-ri, Jangjeon Valley of Mt. Gariwangsan, shady valley near stream in mountainous area, 37°30'02.56"N, 128°33'40.15"E, 490 m, 6 Sep 2020, *B.U.Oh & J.O.Kim 200906-001* (holotype: KB, isotypes: KB, KE) (Fig. 1).

**Description:**—Herb annual, 25–84 cm tall. Stems erect, pale green to green or rarely purplish-green, branched, piliferous, with multicellular multiseriate glandular trichomes. Leaves alternate, glabrous, petiolate; petioles 1–4 cm long; lamina elliptic or rhomboid-elliptic, 7–13 × 3–8 cm, apex acute, base acute or rounded, margin serrate, green, glabrous, lateral veins 7–11 pairs. Bracts 1, narrowly triangular, 1.8–3.2 × 0.5–0.9 mm, green, purplish-green to purple,



**HOLOTYPE**

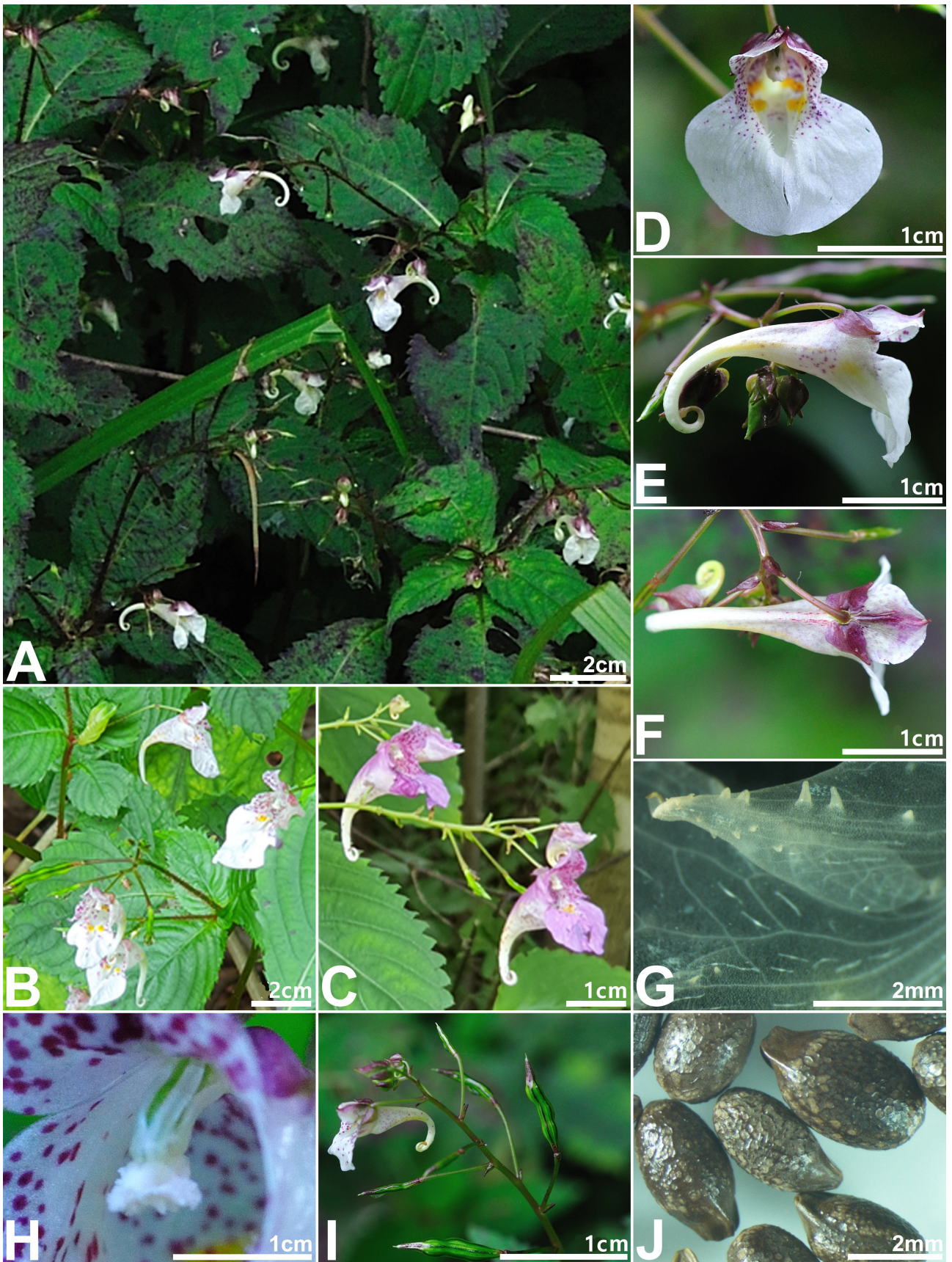
BALSAMINACEAE  
*Impatiens jangjeonense* B.U.Oh.

Korean name: 장전물봉선  
 KOREA, Gangwon-do, Pyeongchang-gun, Jinbu-myeon,  
 Jangjeon-ri, Jangjeon Valley of Mt. Gariwangsan, shady  
 valley near stream in mountainous area  
 37°30'02.56"N, 128°33'40.15"E      Altitude: 490 m  
 Note:

Date: 6 Sep. 2020  
 Coll.: B.U.Oh & J.O.Kim 200906-001

National Institute of Biological Resources  
 Ministry of Environment, Korea

FIGURE 1. Holotype of *Impatiens jangjeonense* B.U.Oh, B.U.Oh & J.O.Kim 200906-001 (KB!).

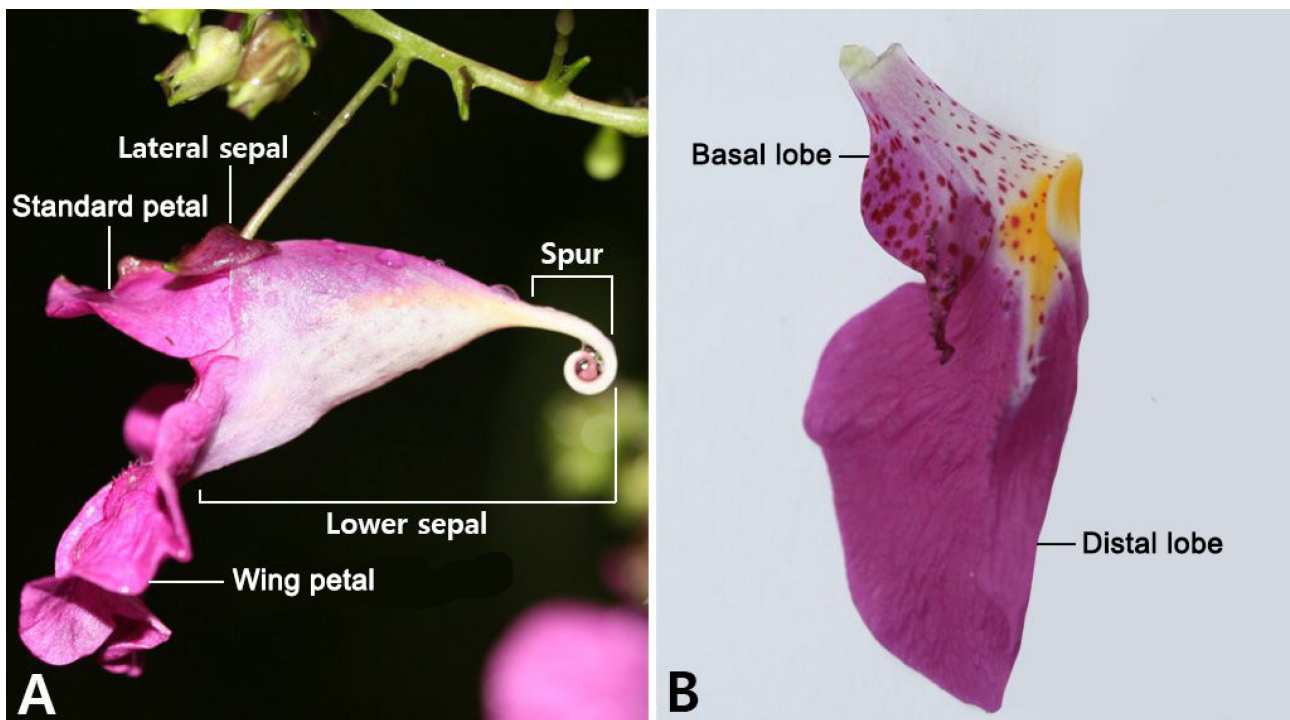


**FIGURE 2.** Morphological characteristics of *Impatiens jangjeonense* B.U.Oh.

**A** Habit. **B** Flower with non-coiled spur. **C** Whitish-pink flower with 1-coiled spur. **D** Front view of flower. **E** Lateral view of flower. **F** Bird's-eye view of flower. **G** Short conical papillae on midrib of wing petal distal lobe and basal lobe. **H** Stamen and pistil. **I** Inflorescence and fruit. **J** Seeds and surface sculpturing.

glabrous. Inflorescence racemose, axillary; rachises usually green to purplish-green, erect, 7–16 cm long, having dense multicellular multiseriate glandular trichomes; peduncle 2.9–12.9 cm long, with red multicellular multiseriate trichomes. Flowers 1.6–3.9 × 1.1–2 cm, white or pinkish-white with yellowish and purplish spots, pedicellate; pedicels 1–1.5 cm long, green to purplish-green, glabrous. Lateral sepals 2, ovate, 3.6–6.5 × 2.5–4.9 mm, white, whitish-pink or pinkish-purple, glabrous. Lower sepal funnel-form with slender spur, 14–33 × 10–25 mm, white or pinkish-white with yellowish and purplish spots; spur 1- or 2-coiled, rarely non-coiled, 4–16 mm long, spur tip ellipsoid, expanded, deeply biparted, 1.2–1.4 × 0.7–1 mm. Standard petal transversely oval, 10.6–14.7 × 10.6–19.2 mm, apex emarginate, base truncate, white or pinkish-white, dorsally keeled, glabrous. Wing petals 2-lobed, 16–24 mm long, white or rarely pinkish-white with yellowish and purplish spots, with conical papillae; basal lobe triangular ovate, 4.3–5.6 × 2–3.2 mm, acuminate at apex, white or pinkish-white; distal lobe obovate, 11.2–17.8 × 6.9–11 mm, white or pinkish-white, dorsal auricle yellow. Stamens 5; filaments linear, upper part connate in a ring around the ovary apex, 2.5–2.9 × 0.3–0.6 mm; anthers ovoid, 1.4–2 × ca. 0.8 mm, white. Ovary fusiform, 2.5–2.9 mm long, glabrous; style 1–2 mm long; stigma 5, beak-like. Capsule slender, fusiform, 14–21 mm long, glabrous; seeds ellipsoidal, 3.2–4.2 × 1.8–2.5 mm, 2–5 per capsule, brown or dark brown, surface irregularly reticulate with anticlinal wall. Pollen grains oblong with 4 apertures, 33–37.7 × 14.2–21.7 μm (Figs 2–6).

**Distribution and habitat:**—Most populations of *I. jangjeonense* occur in Gangwon-do, South Korea, though some populations also occur in Gyeonggi-do, Gyeongsangbuk-do, Jeollabuk-do, and Chungcheongbuk-do. This species inhabits the high mountainous regions, predominantly Baekdudaegan. The elevations of these habitats range from 400 m to 1,200 m. The populations are often observed in shady valleys near streams. Some of the populations are located near the roads in the mountains as well. *I. jangjeonense* co-occurs with *I. hambaeksanensis* in Mt. Hambaeksan, Gangwon-do. However, the populations of the two species are completely isolated from each other within the mountain, and therefore, gene flow and hybridization between the two species are improbable.

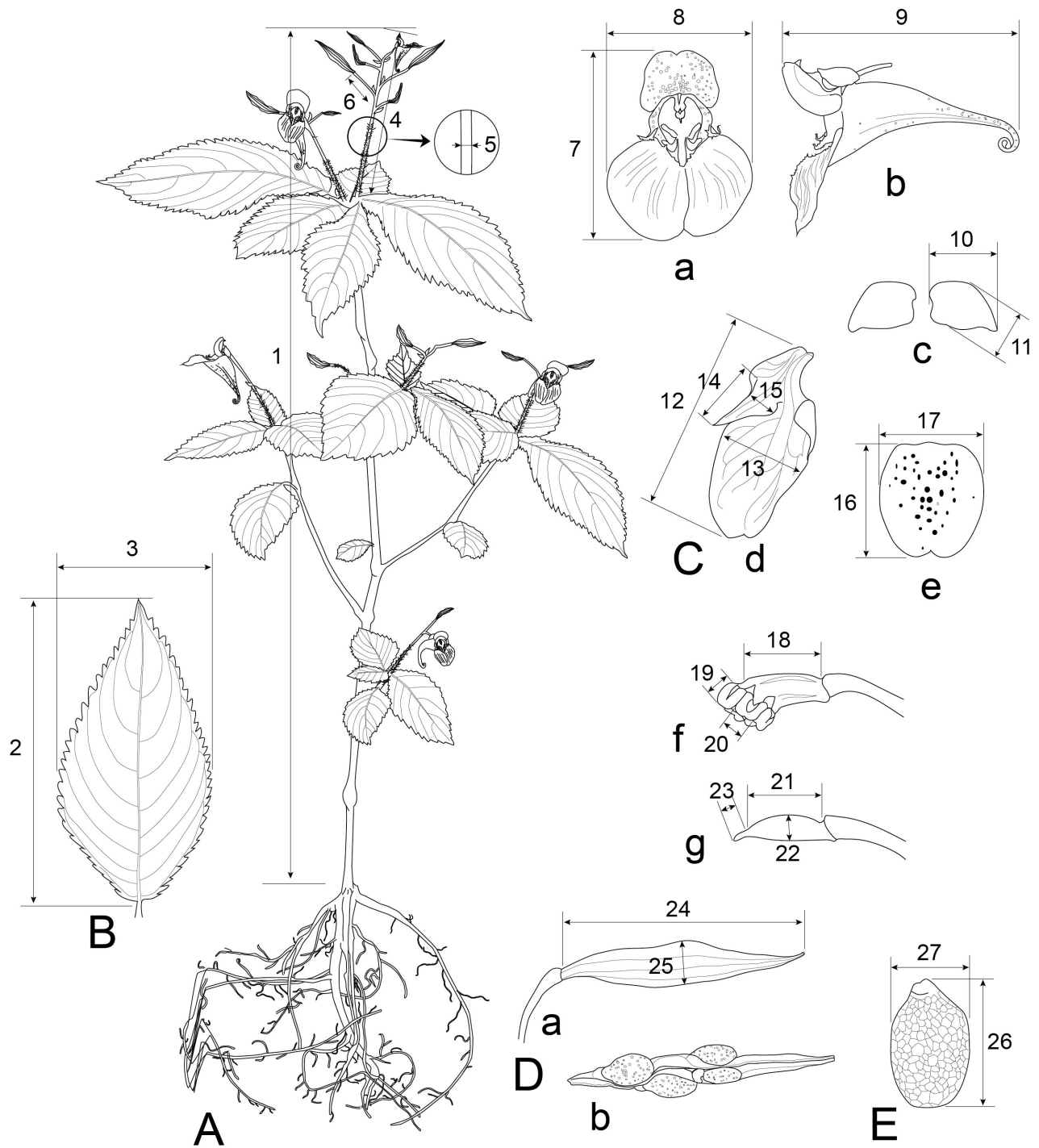


**FIGURE 3.** The structure of flower in the genus *Impatiens*.

**A** Lateral view of flower. **B** Wing petal.

Currently, the habitats of *I. jangjeonense* are not legally protected. However, in general, many individuals are observed in the populations of this species. While some habitats are located near the roads in the mountains, where higher traffic may encroach on the range of these plants, they nevertheless thrive in these regions. Thus, conservation strategies for the populations of this species are not urgently needed. However, for the long-term conservation of its populations, the population size, number of populations, population distribution areas, and factors threatening this species should be thoroughly assessed in the future.

**Phenology:**—*I. jangjeonense* flowers from late June to October and bears fruit from late July to late October. August and September are the peak times for flowering and fruiting.



**FIGURE 4.** The quantitative traits in *I. jangjeonense*, most of which were measured in this study.

**A** Whole plant. **B** Leaf. **C** Flower (a: Front view. b: Lateral view. c: Lateral sepal. d: Wing petal. e: Standard petal. f: stamen. g: pistil.). **D** Fruit (a: shape. b: seed arrangement in fruit). **E** Seed.

1. Plant height. 2. Leaf blade length. 3. Leaf blade width. 4. Rachis length. 5. Rachis diameter. 6. Pedicel. 7. Flower height. 8. Flower width. 9. Flower length. 10. Lateral sepal length. 11. Lateral sepal width. 12. Wing petal length. 13. Wing petal width. 14. Wing petal basal lobe length. 15. Wing petal basal lobe width. 16. Standard petal length. 17. Standard petal width. 18. Filament length. 19. Anther length. 20. Anther width. 21. Ovary length. 22. Ovary width. 23. Style length. 24. Fruit length. 25. Fruit width. 26. Seed length. 27. Seed width. Illustration by Ami Oh.

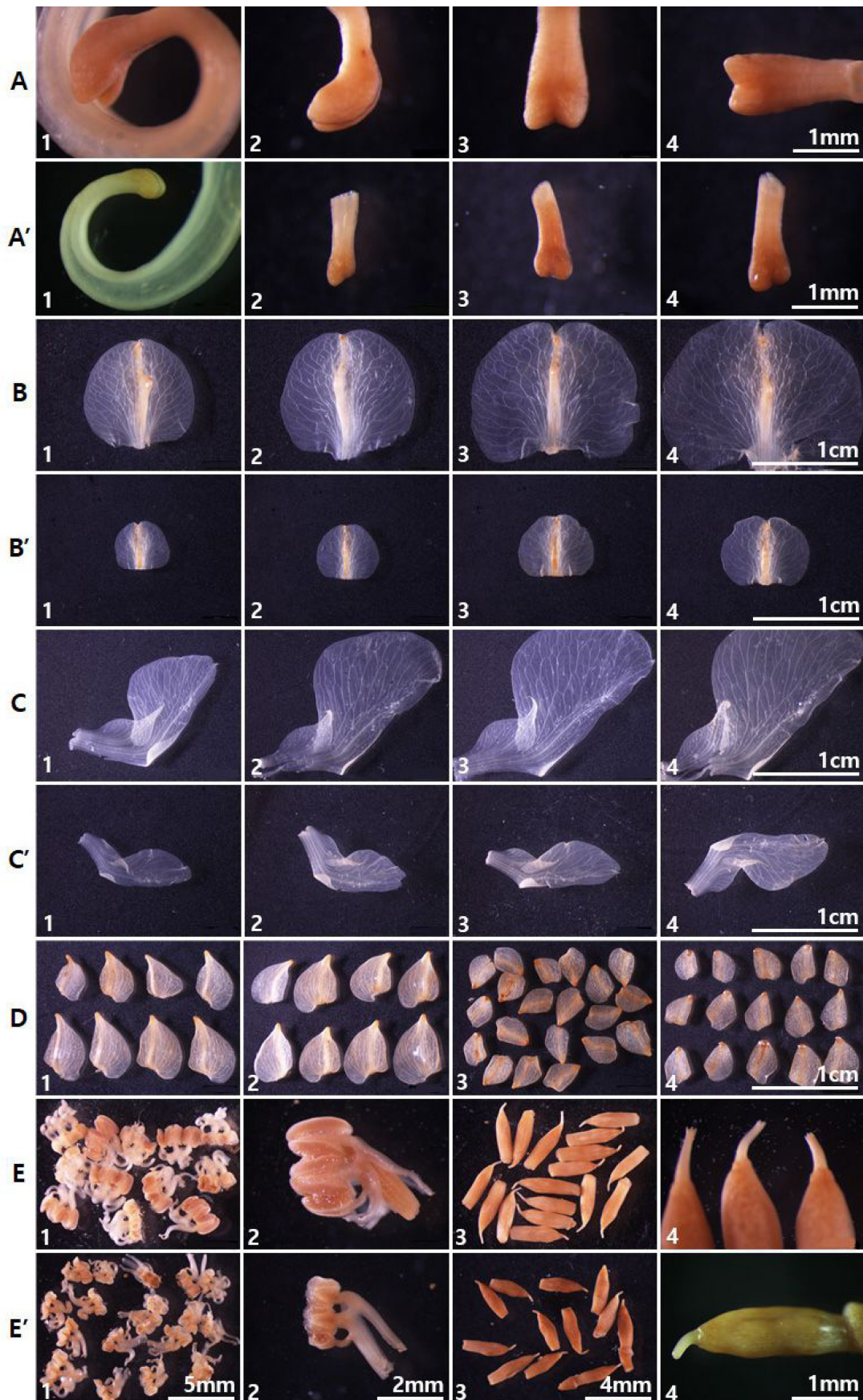
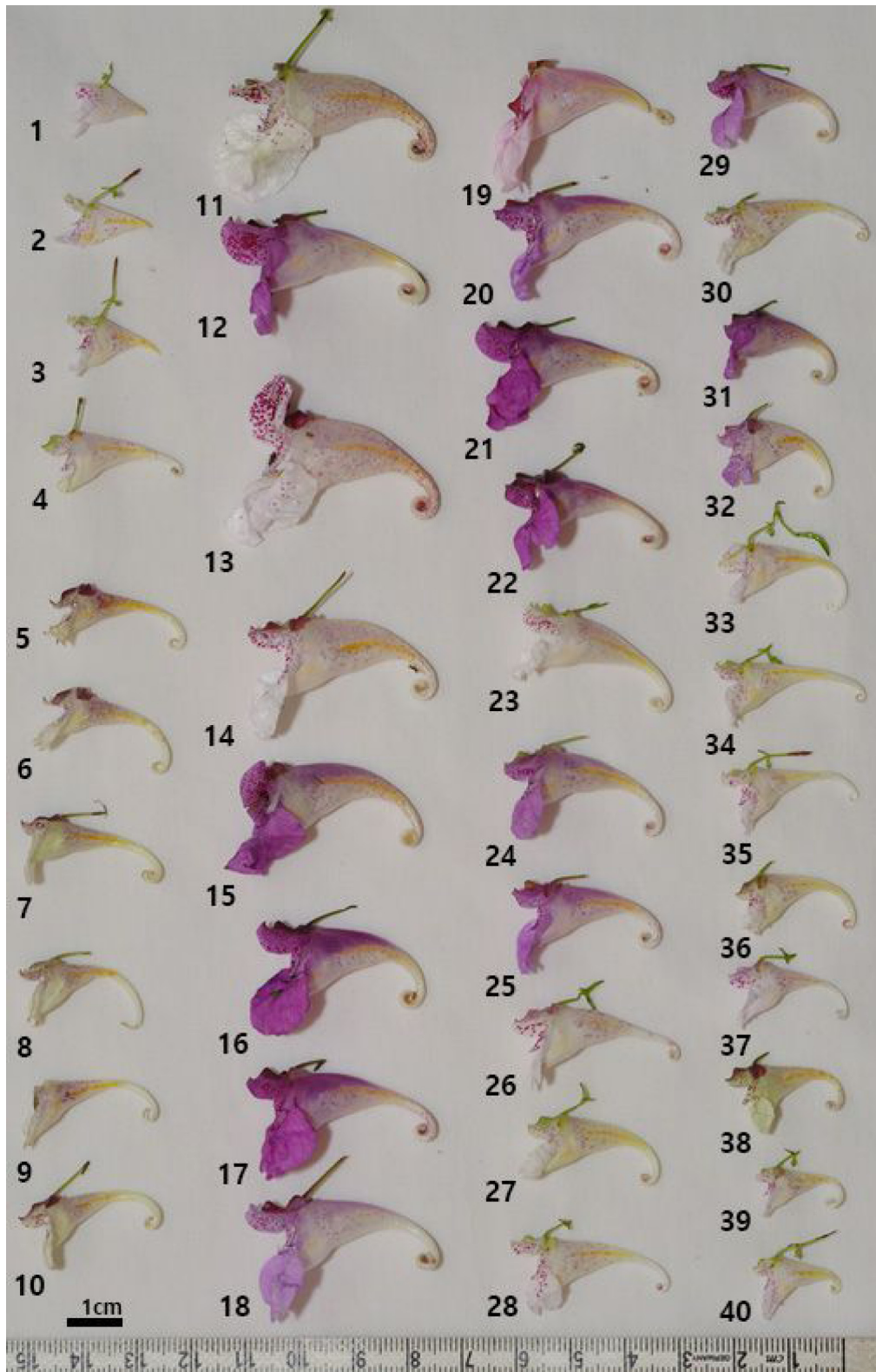


FIGURE 5. Comparison of flower parts between *I. jangjeonense* and *I. hambaeksanensis*.

A, B, C, D(1, 2), E *I. jangjeonense*. A', B' C' D(3, 4), E' *I. hambaeksanensis*. A, A' Spur tip. B, B' Standard petal. C, C' Wing petal. D Lateral sepal. E, E'(1, 2) Stamen. E, E'(3, 4) Pistil. Scale bar: A, A' = 1 mm; B, B', C, C' D = 1 cm; E, E'(1) = 5 mm; E, E'(2) = 2 mm; E, E'(3) = 4 mm; E, E'(4) = 1 mm. Photographs by Ami Oh.



**FIGURE 6.** The variation in the flower size and color of *I. jangjeonense*. The variation was observed at Jangjeon valley in Mt. Gariwangsan, the type locality. Photograph by Ami Oh.

**Vernacular name:**—Jang-jeon-mul-bong-seon (Korean)

**Additional Specimens examined (paratypes):**—KOREA. Gangwon-do: Gangneung-si: Mt. Nochusan, 7 Sep 2007, *Hyun.J.-O. NAPI-0299* (KH!); Mt. Seokbyeongsan, 21 August 2007, *Im.H.T. & Kim.W.K. 073510* (KB!). Bonghwagun: Mt. Cheongoksan, 8 August 2006, *B.U.Oh 060808-075* (KH!). Yanggu-gun: Mt. Samyeongsan, 5 September 2008, *B.U.Oh 080905-002* (KH!). Yangyang-gun: Mt. Galcheonbong, 18 September 2009, *C.H.Lee et al. 2009-09-18*



(KB!); Guryongryeong 502, 19 September 2009, *K.M.Park & S.I.Park 2009-09-19* (KB!); Seomyeon, 18 September 2009, *D.S.Yoo & H.M.Seo 2009-09-18* (KB!). Inje-gun: Mt. Bangtaesan, 26 August 2010, *J.S.Kim, sn.* (KB!); Mt. Bangtaesan, 26 September 2013, *Lee.H.-J. & Yun.J.E. L130237* (KH!); Mt. Bangtaesan, 26 August 2013, *Byun.J.-G. et al. JJ130087* (KH!); Mt. Seolaksan (12 Seonnyeotang), 18 September 2021, *B.U.Oh & J.O.Kim 210918-001* (KH!); Mt. Seolaksan (Misiryaeong), 17 September 2021, *B.U.Oh & J.O.Kim 210917-001* (KH!); Hangyeryeong, 23 September 2002, *B.U.Oh et al. Inje-gun(Hangyeryeong)-020923-001(002~008)* (KH!). Jeongseon-gun: Mt. Gariwangsan, 15 October 2008, *M.H.Kim P0442* (KB!); Mt. Gariwangsan (Mahangchi), 22 August 2008, *Im.H.T., sn.* (KH!); Mt. Nomoksan, 23 July 2008, *B.U.Oh 080723-001* (KH!); Mt. Nochusan, 27 June 2007, *Hyun.J.-O. NAPI-0203* (KH!); Mt. Doowibong, 21 August 2008, *Im.H.T., sn.* (KH!); Imgyemyeon, 6 August 2011, *Choi.M.S. & Lee.J.H. 1003026* (KH!); Mt. Hambaeksan (Manhangjae), 25 August 2021, *B.U.Oh & J.O.Kim 210825-001* (KH!); Mt. Hambaeksan (Jungamsa), 16 September 2012, *B.U.Oh & A.Oh 120916-004* (KH!). Cheolwon-gun: Mt. Geumhaksan, 4 September 2008, *B.U.Oh 080904-071* (KH!). Pyeongchang-gun: Mt. Gariwangsan, 3 October 2008, *B.U.Oh 081003-001* (KH!); Mt. Gariwangsan (Jangjeon valley), 5 September 2020, *B.U.Oh & J.O.Kim 200905-002* (KH!); Mt. Gariwangsan (Jangjeon valley), 17 September 2012, *B.U.Oh & A.Oh 120917-001* (KH!); Mt. Gariwangsan (Jangjeon valley), 26 August 2021, *B.U.Oh & J.O.Kim 210826-001* (KH!); Mt. Gariwangsan (Jangjeon valley), 19 September 2014, *B.U.Oh & A.Oh 140919-002* (KH!); Mt. Gyebangsan, 22 September 2010, *B.U.Oh et al. Pyeongchang-gun(Gyebangsan)-010922-001(002, 003, 005, 007~013)* (KH!); Daegwanryeong (Samyangmokjang), 17 September 2012, *B.U.Oh & A.Oh 120917-004* (KH!); Daegwanryeong (Seonghwangsa), 17 September 2012, *B.U.Oh & A.Oh 120917-003* (KH!); Mt. Odaesan, 19 September 2014, *B.U.Oh et al. Pyeongchang-gun(Odaesan)—140919-004* (KH!); Mt. Odaesan, 29 August 2009, *M.M.Ok et al. CH41154A* (KB!); Mt. Odaesan (Sangwonsa), 19 September 2014, *B.U.Oh & A.Oh 140919-001* (KH!); Mt. Odaesan (Sangwonsa), 6 September 2012, *S.-Y.Kim et al. SY0906G061-2* (KB!); Mt. Odaesan (Woljeongsa), 16 September 2012, *B.U.Oh & A.Oh 120916-001* (KH!); Mt. Odaesan (Woljeongsa), 5 September 2020, *B.U.Oh & J.O.Kim 200905-001* (KH!); Mt. Odaesan (Woljeongsa), 26 August 2021, *B.U.Oh & J.O.Kim 210826-002* (KH!); Odacheon, 17 September 2012, *B.U.Oh & A.Oh 120917-002* (KH!); Unduryeong, 13 August 1999, *Park.K.-W. S-4561* (KH!); Mt. Taegisan, 16 September 2012, *B.U.Oh & A.Oh 120916-003* (KH!). Hongcheon-gun: Yuljeonli (Saldunsaemteo), 16 September 2014, *J.-H.Kim et al. PH140608* (KB!). Hwacheon-gun: Mt. Duryusan, 6 September 2008, *B.-H.Choi & D.-H.Lee, sn.* (KB!); Mt. Baekjeoksan, 5 September 2008, *B.U.Oh 080905-001* (KH!); Mt. Bokjusan, 3 September 2008, *B.U.Oh 080903-120* (KH!); Mt. Seokryongsan, 3 September 2008, *B.U.Oh 080903-027* (KH!); Mt. Ilsan, 4 September 2008, *B.U.Oh 080904-168* (KH!); Mt. Jeokgeunsan, 24 August 2011, *Jang.J.-W. et al. HS111105* (KH!). Hwaengseong-gun: Mt. Taegisan, 6 September 2020, *B.U.Oh & J.O.Kim 200906-002* (KH!); Mt. Taegisan, 26 August 2021, *B.U.Oh & J.O.Kim 210826-005* (KH!). Gyeonggi-do: Gapyeong-gun: Mt. Hwaaksan, 8 September 2017, *Park.H.-J. I-0406* (KH!); Mt. Hwaaksan (Ssamjigongwon), 10 September 2021, *B.U.Oh & J.O.Kim 210910-001* (KH!). Pocheon-si: Mt. Jongjiasan, 7 September 2005, *J.H.Kim et al. 017* (KH!). Gyeongsangbuk-do: Bonghwa-gun: Goseon valley, 16 September 2012, *B.U.Oh & A.Oh 120916-002* (KH!); Mt. Guryongsan, 7 September 2008, *E.K.Choi et al. 1203002* (KH!); Mt. Guryongsan, 7 September 2008, *M.S.Choi & J.S.An 1201061* (KH!); Mt. Guryongsan, 7 September 2008, *Y.S.Oh & J.H.Lee 1202043* (KH!); Mt. Wangdusan, 15 August 2007, *B.U.Oh et al. Wangdusan-070815-004* (KH!); Mt. Cheongoksan, 8 August 2006, *B.U.Oh et al. Bonghwa-gun(Cheongoksan)-060808-126* (KH!). Yeongyang-gun: Suhari, 31 August 2013, *Bae.K.H. et al. KH-130156* (KH!). Jeollabuk-do: Muju-gun: Mt. Deokyoosan, 7 September 2002, *J.H.Kim et al. 2002-0285* (KH!); Jangsu-gun: Mt. Palgongsan, 24 September 2005, *Chang4359* (KH!). Chungcheongbuk-do: Chungju-si: Mt. Cheondeungsan, 5 September 2011, *B.U.Oh 110905-001* (KH!).

## Discussion

The genus *Impatiens* exhibits a large variation in the morphology. For example, hypervariable color and morphology of flower have been well recognized in *Impatiens* (Yuan *et al.* 2004; Zhang & Zhang 2011), along with diverse shapes of capsules and seeds (Lu & Chen 1991). Notably, various color, shape, and size of the organs are observed within the same species or the same population. Partially due to such variability, the taxonomy of *Impatiens* has proven challenging both in Korea and in other regions. As mentioned above, *I. jangjeonense* is morphologically similar to *I. hambaeksanensis*, with the size and color of the organs overlapping with those of *I. hambaeksanensis*. However, in our study, even with the inherent taxonomic problem of large morphological variation in *Impatiens*, we could conclude that some morphological traits of the new species are clearly distinguished from those of *I. hambaeksanensis*.

Various features of the spur, including spur length, angle, and coiling, which are critical to pollination success of plants, have been often used in the taxonomy of *Impatiens* (Young 2008; Fischer *et al.* 2021; Oh *et al.* 2022; Monzalvo *et al.* 2024). Interestingly, the dividedness of the spur tip also serves as a key identifying trait in the taxonomic study of the genus. For example, bilobed spur tip was noted as a key character in the report of the novel Chinese *I. shimianensis* (Zhang & Zhang 2011). In addition, spur tip bifurcation and the presence of two bulges on the tip extremes were incorporated into the taxonomic redescription of *I. mexicana*, the Mexican Balsam (Monzalvo *et al.* 2024). Among Korean *Impatiens* species, a clearly biparted spur tip is observed in *I. jangjeonense* and *I. furcillata*, while *I. hambaeksanensis* features slightly biparted spur tip (Oh *et al.* 2022). To understand the evolutionary relationship between various spur tip shapes, and to unravel the developmental mechanisms of these traits, phylogenetic analyses of diverse *Impatiens* species should be employed.

The topography of the Korean Peninsula is characterized by high eastern mountain ranges, which correspond to Baekdudaegan in the north-south direction, and low western plain regions. Both *I. hambaeksanensis* and *I. jangjeonense* are distributed in Baekdudaegan, but *I. hambaeksanensis* is restricted to smaller regions with elevations of 900–1,200 m, indicating that this endemic species might be relict (Oh *et al.* 2022). We hypothesize that this species originated a long time ago and lost many of its populations over time. The remaining populations might have successfully adapted to the temperature, precipitation, and ecology of very high mountains. However, we cannot rule out the possibility that this species originated only recently, thus showing a small number of populations. On the contrary, *I. jangjeonense* is distributed across wider regions, including the mountains in Gyeonggi-do, Gyeongsangbuk-do, Jeollabuk-do, and Chungcheongbuk-do, with elevations of 400–1,200 m. Interestingly, *I. jangjeonense* is not found in the southwestern plain region of South Korea. The possible explanation for this observation is that during dispersal westward from the high eastern Baekdudaegan, many rivers might have blocked the further westward dispersal of *I. jangjeonense*, resulting in the current distribution pattern. Notably, the wider distribution of *I. jangjeonense* clearly indicates that its evolutionary history, including speciation time and adaptation pattern, differed from that of *I. hambaeksanensis*. To better understand the evolutionary history of these two species that share some of their distribution ranges and morphological traits, further phylogenetic and phylogeographical studies are needed.

Previous work by Yu *et al.* (2016) advanced a new classification of the genus *Impatiens* based on morphological and molecular data, drawn from a wide variety of *Impatiens* species. In the phylogenetic tree generated in this study, two *Impatiens* species which inhabit Korea, *I. textorii* and *I. noli-tangere*, were nested within the section *Impatiens* which was characterized by a 5-carpellate ovary, a 2-flowered (or, rarely, many-flowered) racemose inflorescence, linear or cylindrical capsule, and ellipsoid seed. In addition, a previous study by Oh *et al.* (2022), the first report of *I. hambaeksanensis*, suggested that *I. hambaeksanensis* belongs to the section *Impatiens*. Considering the high morphological similarity between *I. hambaeksanensis* and *I. jangjeonense* described in the present study, we propose that *I. jangjeonense* may belong to the section *Impatiens* as well. Notably, the similarity of inflorescence type, shape of capsule and seed that all Korean *Impatiens* species share supports that all Korean species likely belong to the section *Impatiens* (Oh & Hong 2001; Ji *et al.* 2010; Kim *et al.* 2010; Oh *et al.* 2022).

In this study, the authors report a new species “*I. jangjeonense*”, adding a novel species to the six previously identified Korean *Impatiens* species—*I. textorii*, *I. noli-tangere*, *I. furcillata*, *I. atrosanguineae*, *I. violascens*, and *I. hambaeksanensis* (Chang *et al.* 2017; Oh *et al.* 2022). This work helps to refine the taxonomic definitions of Korean *Impatiens* and offers insight into the current taxonomic system and the evolution of this unique genus.

## Acknowledgements

This work was supported by a grant from the National Institute of Biological Resources (NIBR), funded by the Ministry of Environment (MOE) of the Republic of Korea (NIBR202208101).

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