

## Notes of *Impatiens* (Balsaminaceae) from Southwestern Yunnan, China

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Four new species, *Impatiens yingjiangensis*, *I. begoniifolia*, *I. ruiiensis*, and *I. tongbiguanensis*, are described from SW Yunnan, China. Floral and vegetative features of five species are described. Two species, *I. aureliana* and *I. racemosa* are first reported from SW Yunnan.

*Impatiens* in the Sino-Himalayan region is conspicuously diversified (Hooker 1904–06, 1908a, 1908b, 1910–11; Handel-Mazzetti 1933; Chen 1978). Although Hooker (1904–06) has attempted the taxonomy, nobody has succeeded in defining the whole species and preparing the infrageneric system. The first and second authors, Akiyama and Ohba, continue the systematic work of Himalayan *Impatiens* (Akiyama 1987, Akiyama et al. 1991, 1992, 1992, Akiyama and Ohba 1993), and noticed the close relationships between Himalayan and SW Chinese species.

In 1993 the third and fourth authors, Sugawara and Yang, collected considerable number of specimens of *Impatiens* from Yingjiang and Jindong Counties, SW Yunnan, China. The *Impatiens* flora of these counties has not been studied after Hooker (1908a, b). This paper aims to describe four new species from Yingjiang, and also provide figures showing distinctive floral features and descriptions of vegetative and

floral features for the previously known species found in the collection. The re-description for these species are important because the previous descriptions are incomplete with or without figures. Taxonomic recognition is due to Akiyama and Ohba. The cytological studies of the collection will be published in a separate paper by Sugawara et al. (in press).

1) ***Impatiens mengtzeana*** Hook. f. in Nouv. Arch. Mus. Hist. Nat. Paris, Sér. IV, **10**: 253 (1908). Lév., Cat. Pl. Yun-Nan: 118 (1916). Chen in Acta Phytotax. Sin. **16**: 41 (1978). Index Fl. Yun. **1**: 303 (1984). [Fig. 1: 1a–1f]

Plants more than 20 cm tall, branched. Leaves alternate, evenly distributed throughout, with petiole 3–4 cm long or sessile in upper leaves, lamina broadly elliptic or elliptic, 8–15 cm long, 3.5–6 cm wide, apex acute, base attenuate, margin crenate, nearly glabrous on both surfaces.

Inflorescence racemose, 3.5–4 cm long, axillary, from the upper leaf axils, ascending, usually with 2

flowers. Peduncle 3–3.5 cm long, glabrous. Pedicel 2–2.5 cm long, glabrous, with a bract at base. Bract narrowly ovate, ca. 3 mm long, apex acute, caducous (?).

Flowers yellow with or without reddish patches, 3.5–4 cm long, 4.5–5 cm deep. Lateral sepals 2, ovate, ca. 12 mm long, apex acute. Lower sepal yellow, with reddish veins, navicular, constricted into a spur, ca. 24 mm long, ca. 14 mm deep (excluding spur); spur ca. 28 mm in overall length, slightly curved, incurved or coiled at apex. Dorsal petal yellow with or without reddish patches, broadly ovate, ca. 18 mm long, ca. 20 mm wide, apex truncate, with a crest-like appendage 2–3 mm high. Lateral united petals yellow with or without reddish patches, ca. 30 mm long; the basal lobe broadly triangular-obovate, ca. 12 mm long, ca. 12 mm wide, apex truncate; the distal lobe semi-orbicular, ca. 18 mm long, ca. 14 mm wide, apex slightly praemorse; ventral appendage reniform and inflexed. Stamens 5, anthers without appendage. Fruit linear (?) or clavate (?). Chromosome number  $2n=16$ .

On wet shaded places in the broad-leaved forest.

Specimens examined. Yingjiang, Ruili to Yingjiang, alt. 1,000–1,500 m (Cheng et al. 1, Sept. 30, 1993, KUN, TI); Jindong, Manwan, Longshu, Wuliangshan, alt. 1,800–1,850 m (Cheng et al. 50, Oct. 8, 1993, KUN, TI).

2) *Impatiens aureliana* Hook. f. in Hook., Ic. Pl.: t. 2851 (1908). [Fig. 1: 2a–2h]

Plants 15–20 cm tall. Leaves alternate, somewhat aggregated at apical part, with petiole 0.5–1.2 cm long or sessile in upper leaves, lamina broadly lanceolate, 3–5 cm long, 1.5–2 cm wide, apex acute, base attenuate, margin slightly crenate and ciliate at basal part, hairs 1–3 mm long, pubescent on both surfaces, hairs multicellular.

Flower solitary, axillary, from upper leaf axils, pink-purplish, ca. 2 cm long, ca. 3.5 cm deep. Pedicel 2–3 cm long, pubescent, hairs spreading, 0.2–0.4 mm long, multicellular, without bract at base but with a

small bud(?) near base. Lateral sepals 2, narrowly subulate, ca. 1.5 mm long, slightly awned, pubescent. Lower sepal pink and whitish, navicular, tapering into a long slightly incurved spur, ca. 7 mm long, ca. 30 mm deep including spur. Dorsal petal pink-purplish, broadly obovate, ca. 9 mm long, ca. 12 mm wide when flattened, apex retuse, with a crest-like appendage, pubescent at midrib and appendage. Lateral united petals pink-purplish, ca. 12 mm long; the basal lobe broadly oblong, ca. 9 mm long, ca. 5 mm wide, apex slightly retused-truncate; the distal lobe broadly triangular-obovate, ca. 8 mm long, ca. 6 mm wide, apex rounded; ventral appendage semi-orbicular and not inflexed. Stamens 5, narrow at basal part, anthers without appendage, pollens purplish. Ovary pubescent, hairs straight, ascending, ca. 0.5 mm long. Fruit fusiform, pubescent. Chromosome number  $2n=12$ .

On open, wet bank in the broad-leaved forest.

Specimen examined. Yingjiang, Ruili to Yingjiang, alt. 1,000–1,500 m (Cheng et al. 2, Sept. 30, 1993, KUN, TI).

This species was described from Burma and this is the first report from Yunnan, China.

3) *Impatiens yingjiangensis* S. Akiyama et H. Ohba, sp. nov. [Fig. 1: 3a–3e & Fig. 2]

Species ad *Impatiens mengtzeanae* Hook. f. similis, sed a qua floribus roseis non luteis, petalo dorsali longiore, lobis basalibus petalorum unitorum lateralium latissime oblongis apice rotundatis (nec late triangulo-obovatis truncatis) et distalibus angustio-vatis apice rotundatis (nec semi-orbiculatis praemorsis), et sepalis lateralibus conspicue orbiculatis (nec ovatis) bene differt.

Plants 20–30 cm tall, usually not branched. Leaves alternate, evenly distributed throughout, but deciduous at lower part, with petiole 0.5–1.5 cm long or sessile in upper leaves, lamina elliptic, 7–10 cm long, 2–2.5 cm wide, apex acute, base attenuate, margin slightly crenate, nearly glabrous on both surfaces.

Inflorescences racemose, 1.5–2 cm long, axillary

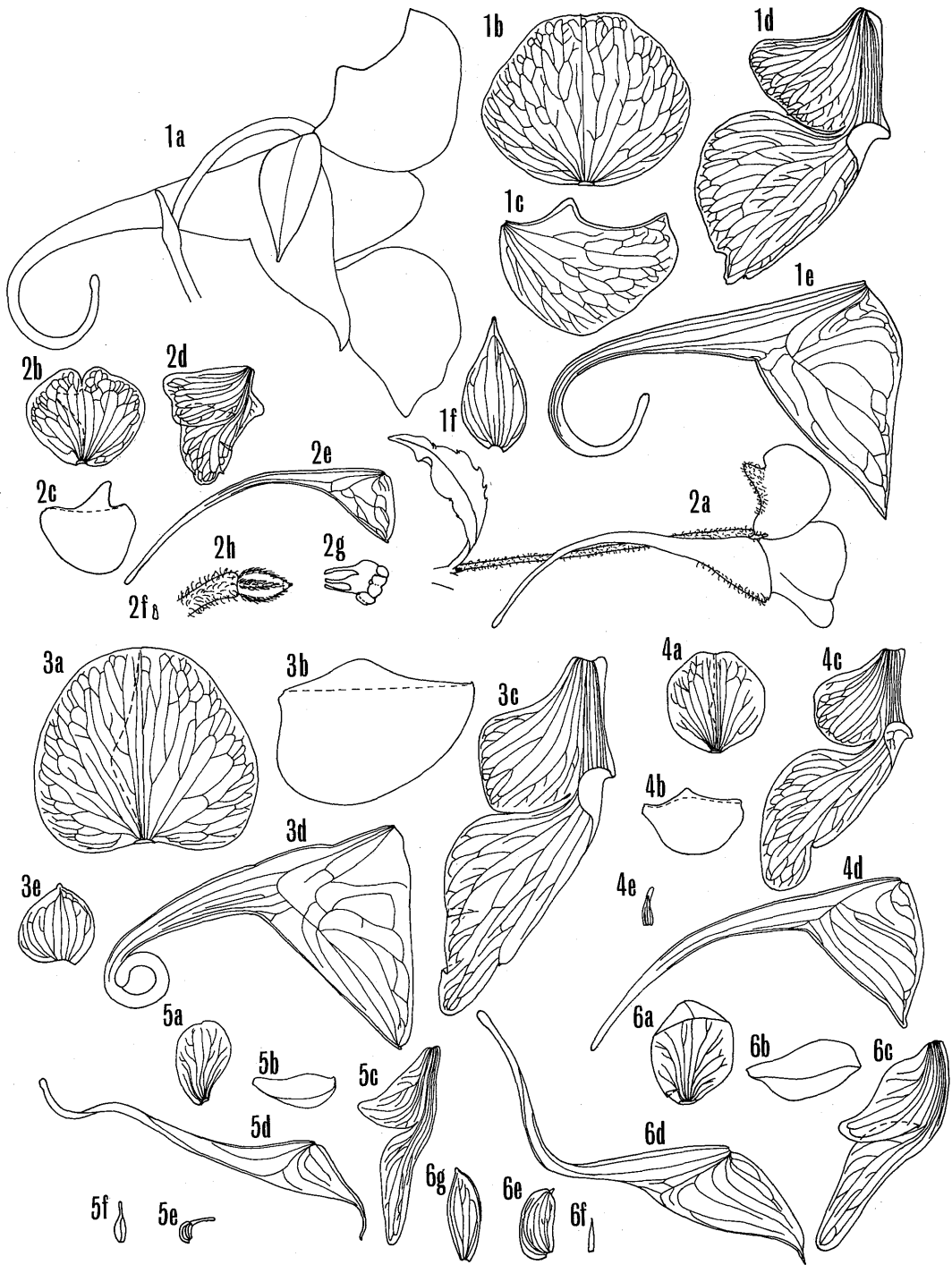


Fig. 1. 1: *Impatiens mengtszeana* Hook. f. 2: *I. aureliana* Hook. f. 3: *I. yingjiangensis* S. Akiyama et H. Ohba. 4: *I. begonifolia* S. Akiyama et H. Ohba. 5: *I. rulliensis* S. Akiyama et H. Ohba. 6: *I. tongbiguanensis* S. Akiyama et H. Ohba. 1a & 2a: Flower. 1b, 1c, 2b, 2c, 3a, 3b, 4a, 4b, 5a, 5b, 6a & 6b: Dorsal petal. 1d, 2d, 3c, 4c, 5c & 6c: Lateral united petals. 1e, 2e, 3d, 4d, 5d & 6d: Lower sepal. 1f, 2f, 3e, 4e, 5e, 6e & 6f: Lateral sepal (6e: outer, 6f: inner). 2g: Stamen. 2h: Ovary. 5f & 6g: Bract (folded along midrib). All  $\times 1.5$ .

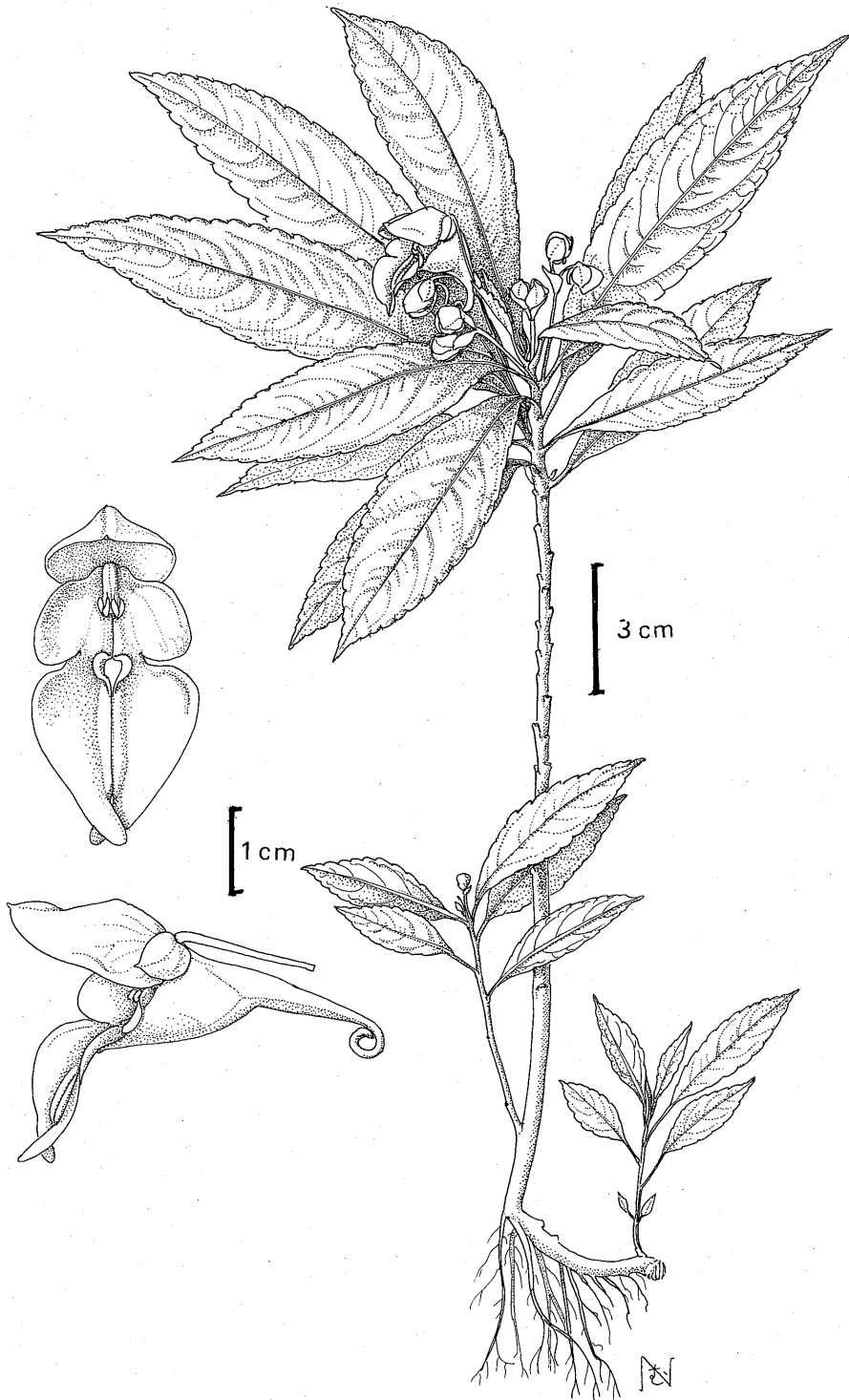


Fig. 2. *Impatiens yingjiangensis* S. Akiyama et H. Ohba.

from the upper leaf axils, usually with 2 flowers. Peduncle 1.5–2 cm long, glabrous. Pedicel ca. 2 cm long, glabrous, with a bract at base. Bract ovate, 4–6 mm long, apex acute, not caducous.

Flowers pink, ca. 3 cm long, ca. 4 cm deep. Lateral sepals 2, orbiculate, ca. 8 mm long, apex acute. Lower sepal pink and yellowish, navicular, constricted into a spur, ca. 22 mm long, ca. 14 mm deep (excluding spur); spur ca. 24 mm in overall length, nearly straight, coiled at apex. Dorsal petal pink, broadly ovate, ca. 20 mm long, ca. 22 mm wide when flattened, apex rounded, with a small crest-like appendage ca. 3 mm high. Lateral united petals pink, ca. 38 mm long; the basal lobe broadly oblong, ca. 16 mm long, ca. 10 mm wide, apex rounded; the distal lobe narrowly ovate, ca. 25 mm long, ca. 11 mm wide, apex rounded; ventral appendage reniform and inflexed. Stamens 5, anthers without appendage. Ovary glabrous. Fruit linear (?) or clavate (?). Chromosome number  $2n=16$ .

On moist moss-covered rocks of the river bank in the broad-leaved forest.

Specimen examined. Yingjiang, Tongbiguan, alt. 1,000–1,400 m (Cheng, Yang, Sugawara and Murakami 26, Oct. 1, 1993, TI-holotype, KUN-isotype).

4) *Impatiens begoniifolia* S. Akiyama et H. Ohba, sp. nov. [Fig. 1: 4a–4e & Fig. 3]

*A Impatiens chlorosepala* Hand.-Mazz. foliis 3–6 (non 7–11) cm longis, sepalis lateralibus subulato-lanceolatis (nec ovatis vel orbiculatis), lobis distalibus petalorum unitorum lateralium ovatis (nec oblongis) differt.

Plants 10–20 cm tall. Leaves alternate, with petiole 0.5–1.5 cm long or sessile in upper leaves, lamina elliptic to ovate, 3–6 cm long, 1.5–2.5 cm wide, apex acute, base attenuate to rounded, margin slightly crenate, nearly glabrous on both surfaces or slightly pubescent on upper surface.

Inflorescences racemose, 0.1–1.5 cm long, axillary, from the upper leaf axils, usually with 2 flowers. Peduncle ca. 0.1–1.5 cm long, glabrous, rachis very

short less than 2 mm long. Pedicel ca. 1 cm long, glabrous, with a bract at base. Bract linear, ca. 2 mm long, apex acute, not caducous.

Flowers pink, ca. 3 cm long, ca. 4 cm deep. Lateral sepals 2, subulate-lanceolate, ca. 4 mm long, apex slightly awned. Lower sepal pink and whitish, navicular, constricted into a spur, ca. 15 mm long, ca. 11 mm deep (excluding spur); spur ca. 24 mm long, nearly straight. Dorsal petal pink, orbiculate, ca. 10 mm long, ca. 9 mm wide when flattened, apex slightly retuse, with a small crest-like appendage ca. 1.5 mm high. Lateral united petals pink, ca. 26 mm long; the basal lobe broadly obovate, ca. 10 mm long, ca. 8 mm wide, apex rounded; the distal lobe ovate, ca. 18 mm long, ca. 8 mm wide, apex rounded; ventral appendage reniform and inflexed. Stamens 5, anthers without appendage. Ovary glabrous. Fruit linear (?) or clavate (?). Chromosome number  $2n=16$ .

On wet shaded places in the evergreen, broad-leaved forest.

Specimen examined. Yingjian, Tongbiguan, 1,000–1,400 m (Cheng, Yang, Sugawara and Murakami 32, Oct. 1, 1993, TI-holotype, KUN-isotype).

5) *Impatiens ruiliensis* S. Akiyama et H. Ohba, sp. nov. [Fig. 1: 5a–5f & Fig. 4]

Specierum aggregatarum *Impatiens drepanophora* Hook. f. primo ad aspectu maxime similis, sed sepalis lateralibus conspicue excurvatis et bracteis naviculari-aristatis bene differt. *A Impatiens siculifera* Hook. f. sepalis lateralibus apice conspicue excurvati-clavatis, lobis distalibus petalorum unitorum lateralium curvato-angusti-lanceolatis, et calcari recto vel deorsum leviter curvatusculo (nec conspicue curvato) diversa.

Leaves alternate, evenly distributed throughout, with petiole 2–5 cm long or sessile in upper leaves, lamina broadly elliptic to ovate, 8–11 cm long, 4–6 cm wide, apex acute, base attenuate, margin crenate, nearly glabrous on both surfaces.

Inflorescences racemose, straight, ascending, axillary, from upper leaf axils, with 5–12 flowers.

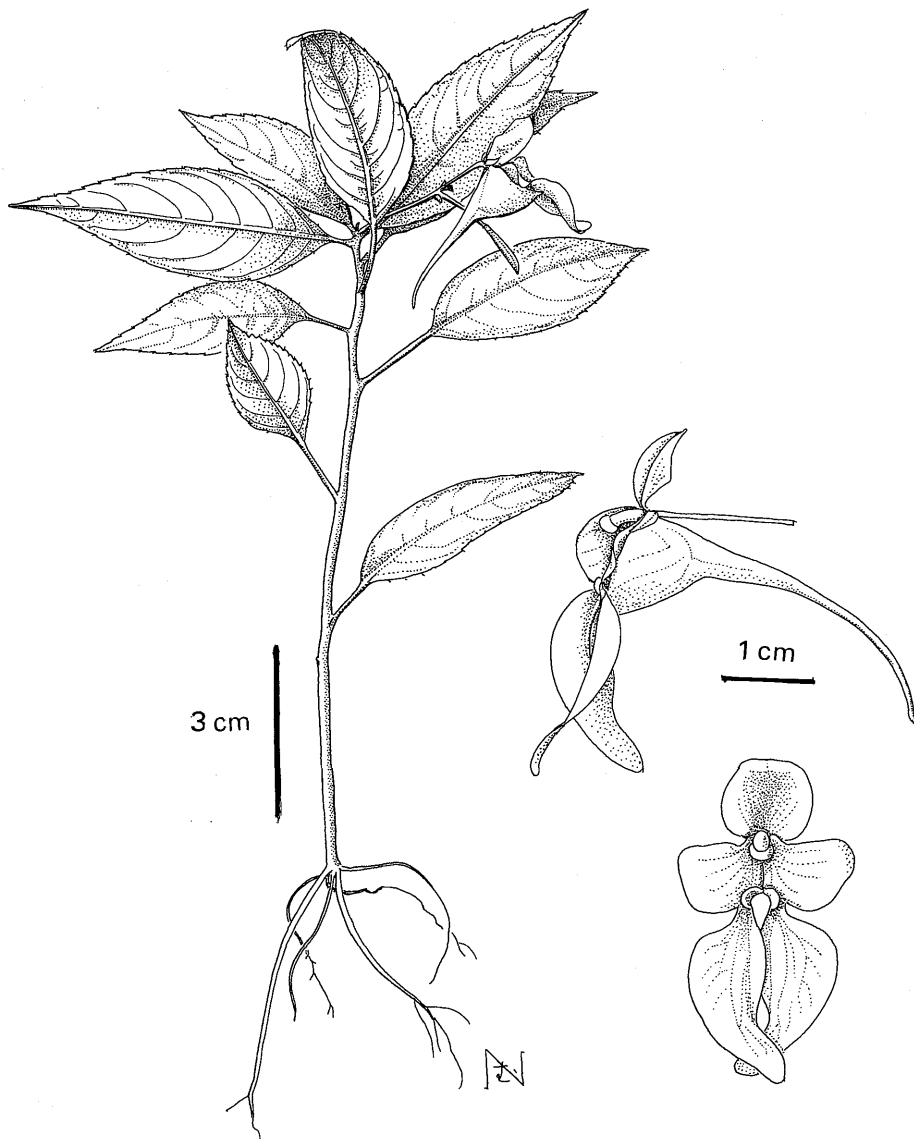


Fig. 3. *Impatiens begoniifolia* S. Akiyama et H. Ohba.

Peduncle 6–10 cm long, glabrous. Pedicel 1.5–2 cm long, glabrous, with a bract at base. Bract navicular, ovate, 8–10 long, apex with long awn, caducous.

Flowers pale yellow, ca. 1.5 cm long, ca. 2 cm deep. Lateral sepals 2, falcate-elliptic, ca. 2 mm long, apex with long awn. Lower sepal pale yellow, navicular, tapering into a long straight and twisted spur, curved at apex, ca. 10 mm long, ca. 30 mm deep

including spur. Dorsal petal pale yellow, bently obovate, ca. 8 mm long, ca. 6 mm wide when flattened, slightly cucullate, without crest-like appendage. Lateral united petals slightly asymmetrically distorted in view from front pale yellow with reddish dots, ca. 18 mm long; the basal lobe obtriangular, ca. 9 mm long, ca. 3 mm wide, apex rounded; the distal lobe bently curved narrowly lanceolate, ca. 14 mm

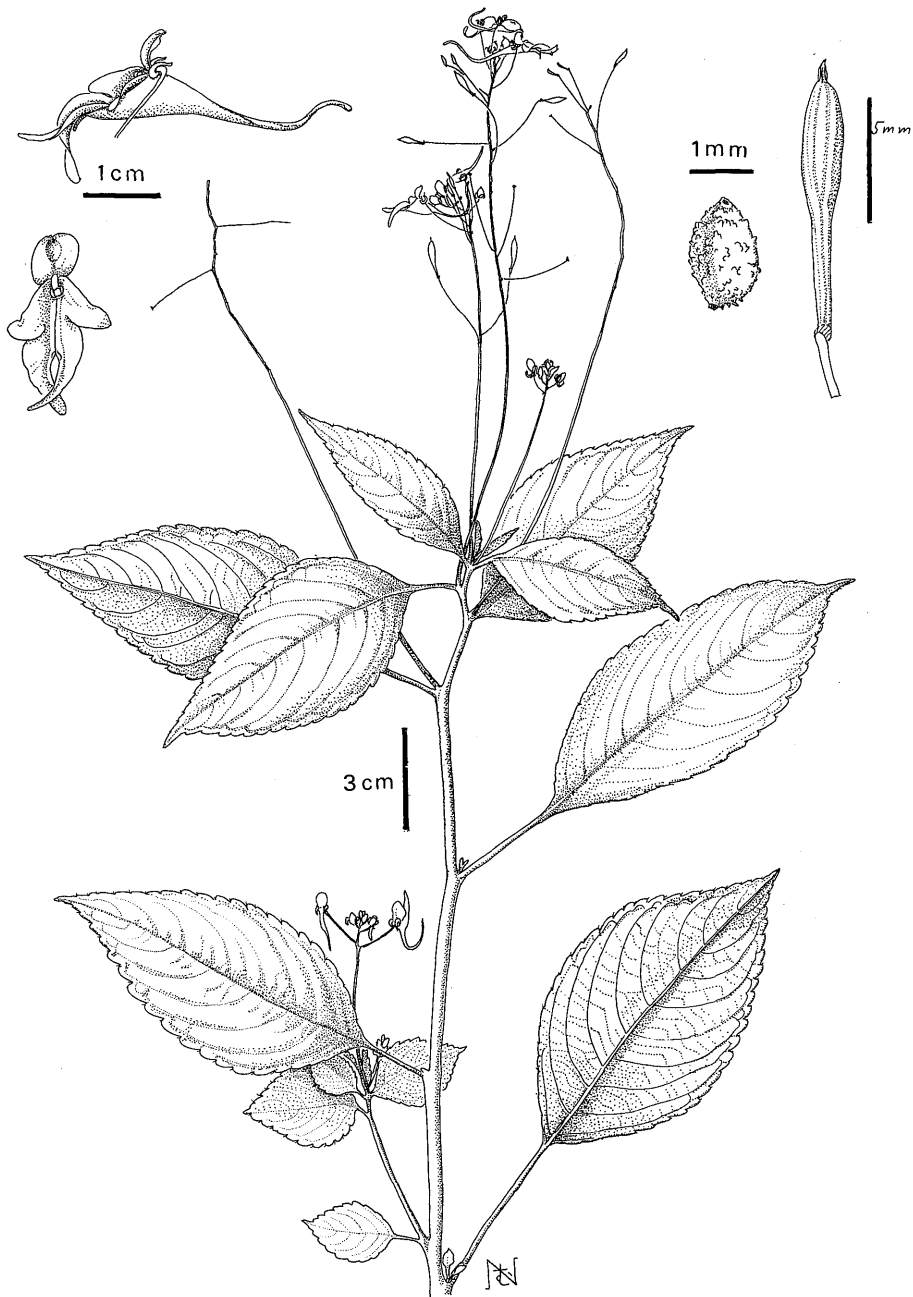


Fig. 4. *Impatiens ruiensis* S. Akiyama et H. Ohba.

long, ca. 5 mm wide, apex slightly rounded, without ventral appendage or with very narrow one. Stamens 5, anthers without appendage. Style glabrous. Fruit linear (?) or clavate (?). Chromosome number  $2n=18$ .

On the shaded places in the broad-leaved forest.

Specimen examined. Yingjiang, Tongbiguan, alt. 1,000–1,400 m (Cheng, Yang, Sugawara and Murakami 4, Oct. 1, 1993, TI-holotype, KUN-isotype).

In the region from east Himalaya (Nepal to Bhutan) to Yunnan there are several species which are

characterized by having yellow flowers, lateral united petals with loriform distal lobes and triangular to broadly ovate-semiorbicular basal lobes, cucullate dorsal petals without dorsal outgrowth, and narrow navicular lower sepals with long straight or curved spurs. The species group, tentatively named *I. drepanophora* group, consists of *I. drepanophora* Hook. f., *I. bivittata* Hook. f., *I. longipes* Hook. f. et Thomson, *I. stenantha* Hook. f., and *I. siculifera* Hook. f. Though the circumscription and variation of these species are unclear, *Impatiens ruiensis* apparently belongs to this group and differs from *I. siculifera* by the shape of lateral sepals and spur.

6) ***Impatiens tongbiguanensis*** S. Akiyama et H. Ohba, sp. nov. [Fig. 1: 6a–6g & Fig. 5]

Ex affinitate speciebus gregis *Impatiens drepanophorae* Hook. f. foliis lineari-ellipticis caulem toto arte dispositis satim diagnoscenda.

Leaves alternate, evenly distributed throughout, with petiole 1–1.5 cm long or sessile in upper leaves, lamina linear-elliptic, 13–18 cm long, 1–1.5 cm wide, apex acute, base attenuate, margin slightly crenate, glabrous on both surfaces.

Inflorescences racemose, straight, ascending, axillary, from upper leaf axils, with 8–12 flowers. Peduncle 5–8 cm long, glabrous. Pedicel 1.5–2 cm long, glabrous, with a bract at base. Bract navicular, ovate, 8–10 long, apex acute, without awn, caducous.

Flowers yellow, ca. 2.5 cm long, ca. 3.5 cm deep. Lateral sepals 4; outer ones slightly falcate-elliptic ca. 6 mm long, apex acute, without awn; inner ones linear-subulate, ca. 3 mm long, membranaceous. Lower sepal yellow, navicular, tapering into a long recurved and twisted spur, ca. 14 mm long, ca. 32 mm deep including spur. Dorsal petal yellow, bently broadly elliptic, ca. 12 mm long, ca. 8 mm wide when flattened, cucullate, without crest-like appendage. Lateral united petals yellow with reddish dots, ca. 24 mm long; the basal lobe broadly lanceolate or narrowly ovate, ca. 12 mm long, ca. 6 mm wide, apex

rounded; the distal lobe lanceolate, ca. 14 mm long, ca. 5 mm wide, apex rounded, without ventral appendage. Stamens 5, anthers without appendage. Style glabrous. Fruit linear (?) or clavate (?). Chromosome number  $2n=18$ .

On river bank in the broad-leaved forest.

Specimen examined. Yingjiang, Tongbiguan, alt. 1,000–1,400 m (Cheng, Yang, Sugawara and Murakami 27, Oct. 1, 1993, TI-holotype, KUN-isotype).

This species approaches to the species of *I. drepanophora* group in having yellow flowers with characteristic floral features, but greatly differs from them by the linear-elliptic leaves arranged throughout the stem like *I. balsamina* L.

7) ***Impatiens rubro-striata*** Hook. f. in Hook., Ic. Pl.: t. 2954 (1911). Lév., Cat. Pl. Yun-Nan: 119 (1916). Hand.-Mazz., Symb. Sin. 7: 647 (1933). Chen in Acta Phytotax. Sin. 16: 38 (1978). Index Fl. Yun. 1: 305 (1984). [Fig. 6: 1a–1g]

Plants 30–40 cm tall. Leaves alternate, evenly distributed throughout, with petiole 1.5–3.5 cm long or nearly sessile in upper leaves, lamina broadly ovate to elliptic, 7–9 cm long, 3–5.5 cm wide, apex acute, base attenuate, margin crenate, nearly glabrous on both surfaces.

Inflorescences racemose, 2.5–3 cm long, axillary, from upper leaf axils, pendulous, below subtending leaf, with 2 or 3 flowers. Peduncle 1.5–2 cm long, glabrous. Pedicel ca. 1.5 cm long, glabrous, with a bract at base. Bract broadly ovate, ca. 2 mm long, apex acute, not caducous.

Flowers white, ca. 2.5 cm long, ca. 4 cm deep. Lateral sepals 2, asymmetrically broadly ovate, ca. 10 mm long, apex acute. Lower sepal white with reddish veins, bucciniform, constricted into a spur, ca. 19 mm long, ca. 19 mm deep (excluding spur); spur ca. 10 mm long (ca. 16 mm in overall length), incurved at apex. Dorsal petal white, orbiculate, ca. 16 mm long, ca. 15 mm wide when flattened, apex slightly retuse-rounded, with a crest-like appendage, ca. 4 mm high.





Fig. 5. *Impatiens tongbiguanensis* S. Akiyama et H. Ohba.

Lateral united petals white with reddish veins, ca. 32 mm long; the basal lobe broadly oblong-ovate, ca. 16 mm long, ca. 10 mm wide, apex retuse; the distal lobe broadly oblong-ovate, ca. 22 mm long, ca. 13 mm wide, apex retuse; ventral appendage reniform and

inflexed. Stamens 5, anthers with membranaceous appendages, connective pubescent. Fruit linear (?) or clavate (?). Chromosome number  $2n=20$ .

On wet shaded places in the broad-leaved forest. Specimen examined. Jindong, Manwan, Longshu,

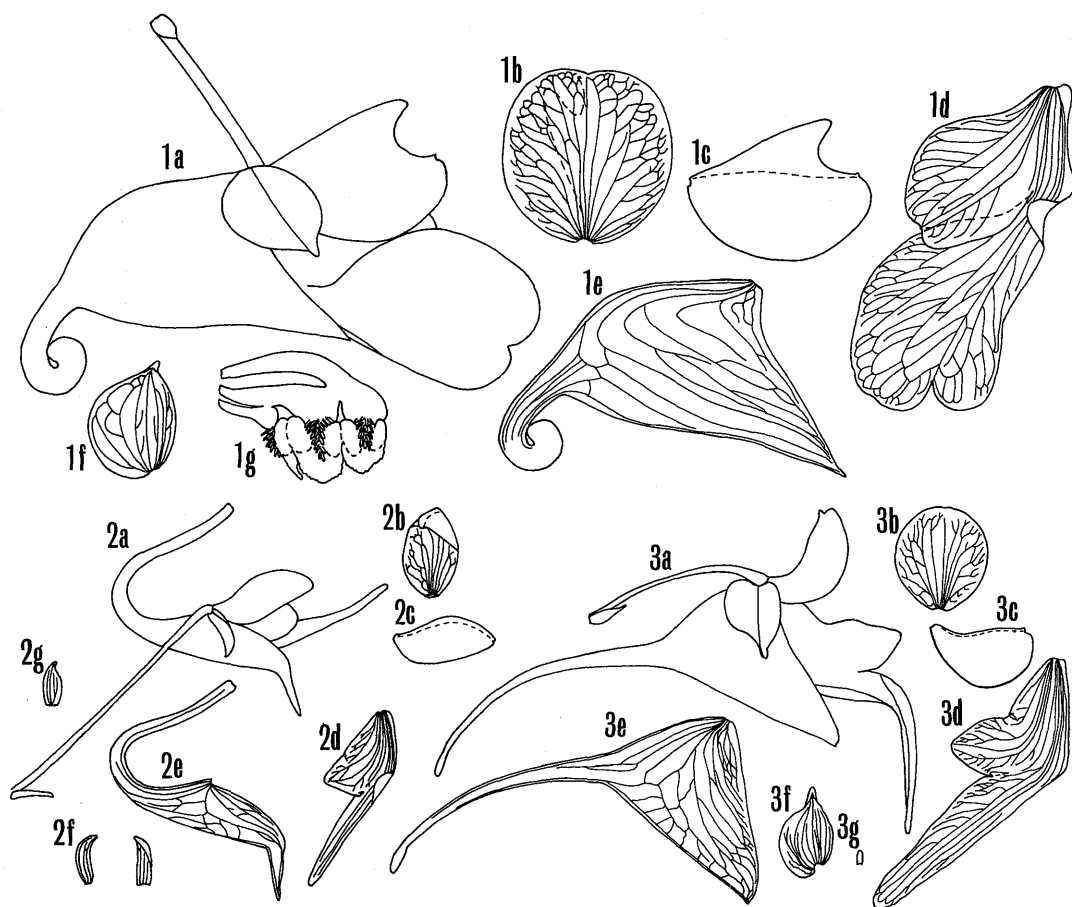


Fig. 6. 1. *Impatiens rubro-striata* Hook. f. 2. *I. siculifer* Hook. f. 3. *I. uliginosa* Franch.  
 1a, 2a & 3a: Flower. 1b, 1c, 2b, 2c, 3b & 3c: Dorsal petal. 1d, 2d & 3d: Lateral united petals. 1e, 2e & 3e: Lower sepal.  
 1f, 2f, 3f & 3g: Lateral sepal (3f: outer, 3g: inner). 1g: Stamen. 2g: Bract. All  $\times 1.5$ .

Wuliangshan, alt. 1,800–1,850 m (Cheng et al. 37, Oct. 8, 1993, KUN, TI).

Hooker described this species as anther oblong, but from our observation of the specimen collected anthers have membranaceous appendages and should be described as acute. The other characters agree well with Hooker's description. *Impatiens rubro-striata* is similar to Himalayan *I. discolor* in shape of inflorescence and flower. The latter has also the anthers with membranaceous appendages.

8) *Impatiens racemosa* DC., Prodr. 1: 688 (1824). Chen in Fl. Xizang. 3: 181 (1986). S. Akiyama et al. in H. Ohba & S. B. Malla, Him. Pl. 2: 69, fig. 4 (1991).

Chromosome number  $2n=18$ .

On path-side bank.

Specimens examined. Jindong, Manwan, Longshu, Wuliangshan, alt. 1,800–1,850 m (Cheng et al. 46, 58, Oct. 8, 1993, KUN, TI); alt. 2,000 m (Cheng et al. 62, Oct. 9, 1993, KUN, TI).

*Impatiens racemosa* has a rather wide distribution range from Kashmir to Bhutan, Assam and S. Tibet, but this is the first report from Yunnan.

9) *Impatiens siculifer* Hook. f. in Nouv. Arch. Mus. Hist. Nat. Paris, Sér. IV, 10: 246 (1908). Lév., Cat. Pl. Yun-Nan: 119 (1916). Hand.-Mazz., Symb. Sin. 7: 648 (1933). Chen in Acta Phytotax. Sin. 16: 39

(1978). Index Fl. Yun. 1: 305 (1984).

[Fig. 6: 2a–2g]

Leaves alternate, somewhat aggregated at apical part, with petiole 1–2 cm long or sessile in upper leaves, lamina lanceolate, 8–16 cm long, 2–3 cm wide, apex acute or acuminate, base attenuate, margin crenate, nearly glabrous on both surfaces.

Inflorescences racemose, 4–5 cm long, axillary, from upper leaf axils, straight, ascending, with 5–10 flowers. Peduncle 3–4 cm long, glabrous. Pedicel 1.5–2 cm long, glabrous, with a bract at base. Bract narrowly ovate, 3–4 mm long, apex acute, not caducous.

Flowers yellow, 1.5–2 cm long, 2–2.5 cm deep. Lateral sepals 2, navicular, ovate, ca. 4 mm long, apex acute. Lower sepal yellow, navicular, tapering into a long recurved spur, ca. 12 mm long, ca. 20 mm deep including spur. Dorsal petal bently elliptic, ca. 9 mm long, ca. 6 mm wide when flattened, cucullate, without crest-like appendage. Lateral united petals yellow with reddish dots, ca. 16 mm long; the basal lobe obtriangular, ca. 8 mm long, ca. 4 mm wide, apex rounded; the distal lobe loriform, ca. 10 mm long, ca. 1.4 mm wide, apex rounded, with inflexed narrow ventral appendage. Stamens 5, anthers without appendage. Style glabrous. Fruit linear (?) or clavate (?). Chromosome number  $2n=18$ .

On wet shaded places in the broad-leaved forest.

Specimen examined. Jindong, Manwan, Longshu, Wuliangshan, alt. 2,000 m (Cheng et al. 65, Oct. 9, 1993, KUN, TI).

10) *Impatiens uliginosa* Franch. in Bull. Soc. Bot. Fr. 33: 448 (1886); Pl. Delavay.: 122 (1889). Hook. f. in Nouv. Arch. Mus. Hist. Nat. Paris, Sér. IV, 10: 247 (1908). Lév., Cat. Pl. Yun-Nan: 119 (1916). Hand.-Mazz., Symb. Sin. 7: 649 (1933). Chen in Acta Phytotax. Sin. 16: 39, 44, fig. 2-10 (1978).

[Fig. 6: 3a–3g]

Leaves alternate, somewhat aggregated at apical part, with petiole 3–5 cm long or sessile in upper

leaves, lamina elliptic, 8–18 cm long, 4–6 cm wide, apex acute to acuminate, base attenuate, margin crenate, nearly glabrous on both surfaces.

Inflorescences racemose, 10–15 mm long, from upper leaf axils, straight, ascending, with 5–10 flowers. Peduncle 5–8 cm long, glabrous. Pedicel ca. 1.5 cm long, glabrous, with a bract at base. Bract ovate, ca. 3 mm long, apex acute, caducous.

Flowers dark violet, 2–3 cm long, ca. 4 cm deep. Lateral sepals 4; outer ones asymmetrically broadly ovate, ca. 6 mm long, apex acute; inner ones minute, ca. 1 mm long, membranaceous. Lower sepal dark violet, navicular, constricted into a spur, ca. 16 mm long, ca. 11 mm deep excluding spur; spur ca. 20 mm long, nearly straight. Dorsal petal dark violet, nearly orbiculate, ca. 9 mm long, ca. 8 mm wide, apex rounded, without a crest-like appendage. Lateral united petals dark violet and white with yellowish patches, ca. 17 mm long; the basal lobe dark violet, ca. 12 mm long, ca. 5 mm wide, obtriangular, apex rounded; the distal lobe white with yellowish patches, ca. 15 mm long, ca. 4 mm wide, lanceolate, apex rounded, without ventral appendage. Stamens 5, anthers without appendages. Fruit linear (?) or clavate (?). Chromosome number  $2n=18$ .

On wet shaded places in the broad-leaved forest.

Specimens examined. Jindong, Manwan, Longshu, Wuliangshan, alt. 2,000 m (Cheng et al. 64, Oct. 9, 1993, KUN, TI); alt. 1,900 m (Cheng et al. 77, Oct. 9, 1993, KUN, TI).

*Impatiens uliginosa* was described as having two lateral sepals and narrowly lanceolate, sometimes lanceolate-linear leaves, but from our observation of the specimens collected it has four lateral sepals (the inner ones minute) and elliptic leaves. Chen (1978) figured two lateral sepals, one of those is a little smaller than the other. Though our specimens which have elliptic leaves seem to be diverse from the typical form with narrowly lanceolate leaves, the variations of leaf shape is still unclear in this and its aggregated

species.

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秋山 忍, 大場秀章, 菅原 敬, 楊 永平, 邑田 仁: 雲南省西南部産ツリフネソウ属植物の研究

1993年に中国雲南省西南部で採集されたツリフネソウ属植物の4種, *Impatiens yingjiangensis*, *I. begoniifolia*, *I. ruiliensis*, *I. tongbiguanensis* を記載した。また, これまでヒマラヤ・チベットから知られていた *I. racemosa* とビルマから知られてい

た *I. aureliana* が雲南省に産することを初めて報告した。併せて, 雲南省西南部に産する数種のツリフネソウ属植物の花および栄養器官の形態の記載を行なった。