Taiwania 71(1): 55–63, **2026**
DOI: 10.6165/tai.2026.71.55

Two new species, *Begonia dinhtuana* and *B. caelata* (sect. *Platycentrum*, Begoniaceae) from North Vietnam

Khang Sinh NGUYEN[1,2], Van Thanh BUI[1,2], Thi Van Anh NGUYEN[1], Che Wei LIN[3,*]

*1. Institute of Biology, Vietnam Academy of Science and Technology, 18 Hoang QuocViet, Cau Giay, Hanoi-10072, Vietnam. 2. Graduate University of Science and Technology, Vietnam Academy of Science and Technology, 18 Hoang Quoc Viet, Cau Giay, Hanoi-10072, Vietnam. 3. Herbarium of Taiwan Forestry Research Institute, Taiwan Forestry Research Institute, No. 53, Nan–Hai Road, Taipei 100, Taiwan. *Corresponding author's email: varalba@gmail.com*

(Manuscript received 28 July 2025; Accepted 3 December 2025; Online published 8 January 2026)

ABSTRACT: The number of described species of *Begonia* has increased rapidly over the past decade, particularly in the Indochinese region. In Vietnam, many newly discovered species are narrowly distributed, often restricted to a single or a few adjacent mountains. Here, we describe two new species from northern Vietnam, *Begonia dinhtuana* and *B. caelata*, both of which belong to *Begonia* sect. *Platycentrum*. Detailed morphological descriptions, illustrations, and comparisons with closely related taxa are provided to support their taxonomic recognition.

KEY WORDS: biodiversity, endemism, flora of Vietnam, Indochina, Lao Cai Province, plant diversity, taxonomy.

INTRODUCTION

Begonia sect. *Platycentrum*, one of the largest sections within the genus *Begonia*, exhibits remarkable morphological diversity and is widely distributed from the Himalayan region across mainland Southeast Asia, adjacent islands, and Oceania. The section comprises approximately 255 species worldwide (Hughes *et al*., 2015–Present). Morphologically, members of this section display great variation, with growth forms ranging from creeping to erect, leaves may be symmetrical or asymmetrical, and vary from simple to palmately compound. The ovary structure is also variable, being usually 2−4-locular (Bui *et al*., 2024).

In Vietnam, although many regions have undergone extensive botanical surveys, new species of *Begonia* continue to be discovered through more thorough field investigations, further increasing the number of recognized species within this section (Anh *et al*., 2024; Bui *et al*., 2024; Nguyen *et al*., 2024, 2025).

Recently, two unidentified *Begonia* species were discovered by local plant enthusiasts. Both specimens exhibit distinct morphological characteristics that are not consistent with any previously documented species in Vietnam.

A critical examination of herbarium specimens and relevant literature (Averyanov *et al*., 2019, 2021; Pham *et al*., 2019, 2021; Shui *et al*., 2019; Hoang *et al*., 2021a,b, 2022a,b; Lanorsavanh *et al*., 2021; Lin *et al*., 2021, 2022; Souvannakhoummane *et al*., 2021; Luu *et al*., 2022; Bon *et al*., 2023a,b; Anh *et al*., 2024; Bui *et al*., 2024; Nguyen *et al*., 2024, 2025; Tian *et al*., 2025) confirms that these two specimens represent undescribed taxa assignable to *B.* sect. *Platycentrum*. We therefore describe them here as two new species: *Begonia dinhtuana* and *B. caelata*.

TAXONOMIC TREATMENT

Begonia dinhtuana K.S.Nguyen, V.T.Bui & C.W.Lin, ***sp. nov***. **Figs. 1, 2**
§ *Platycentrum*

Type: VIETNAM. Northwestern Vietnam, Lao Cai Province: Bao Yen Commune (former Bao Yen District, Cam Con Commune), Bong 2 Village, remnants of primary evergreen broad-leaved forest on shale stone mountain, 22.194199° N, 104.281619° E, elev. 300–400 m a.s.l., not rare, 15 April 2025, *Trieu Van Nhat, TVN-LC 012* (Holotype: HN; Isotype: HN).

Diagnosis: In its lanceolate leaves and inflorescences produced only on erect stems, *B. dinhtuana* resembles *B. bacmeensis* V.T.Pham & C.W.Lin (Pham *et al*., 2019), but differs in having stems and petioles densely covered with lanate-tomentose hairs (*vs*. glabrous), the adaxial surface of the lamina is often very sparsely scabrescent (*vs*. glabrous), the veins on the abaxial surface densely lanate-tomentose (*vs*. glabrous), pink tepals (*vs*. pale green) in both staminate and pistillate flowers, and a 3-locular ovary (*vs*. 2-locular).

Monoecious rhizomatous herb. **Rhizome** stout, crimson to brownish-red, 5−10 cm or more long, 5−7 mm thick, internodes 3−7 mm or longer, densely sub-appressed brownish-yellow lanate-tomentose; erect stems seen only at anthesis, leafless or occasionally bearing 1 or 2 leaves; 1−3 nodes, crimson, internodes 0.7–6.0 cm or longer, 2.5−4.0 mm thick, densely brownish-yellow lanate-tomentose. **Stipules** semi-persistent, straight or recurved, rosy pink to yellowish-green with a red midrib, narrowly triangular to ovate-triangular, 5–12 × 3.5–7.0 mm, thickly herbaceous, slightly keeled, abaxially sparsely to densely lanate-tomentose, margin minutely denticulate and ciliate, apex aristate, arista 1.0–1.5 mm

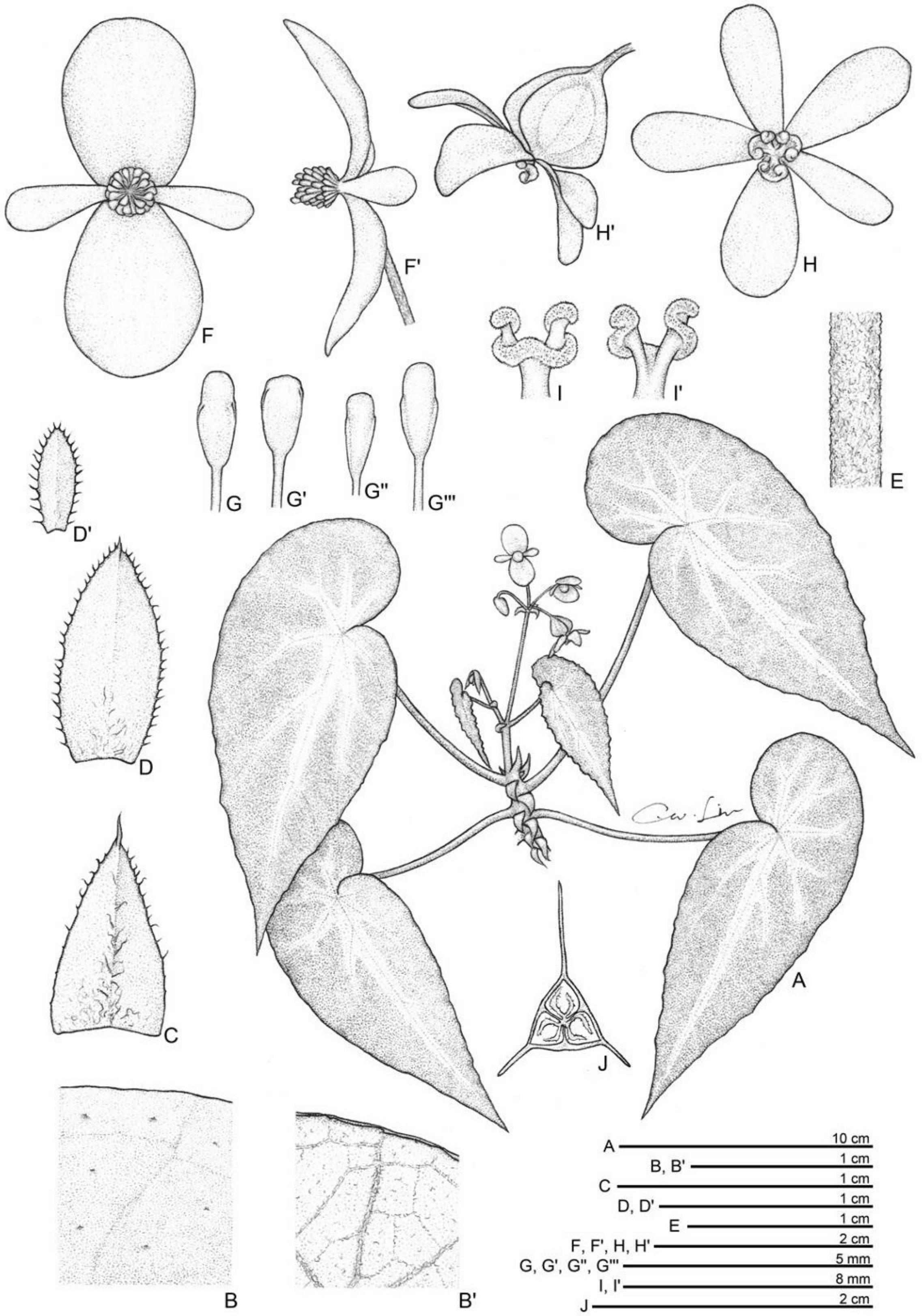

Fig 1. ***Begonia dinhtuana*** **A.** Habit; **B, B'.** Portion of leaf, upper and lower surfaces; **C.** Stipule; **D, D'.** Bracts; **E.** Portion of petiole; **F, F'.** Staminate flower, face and side views; **G–G'''.** Stamens, ventral and dorsal views; **H, H'.** Pistillate flower, face and side views; **I, I'**. Style and stigmatic band, dorsal and ventral views; **J.** Cross section of ovary. Drawn from *C.W.Lin 730* by Che-Wei Lin

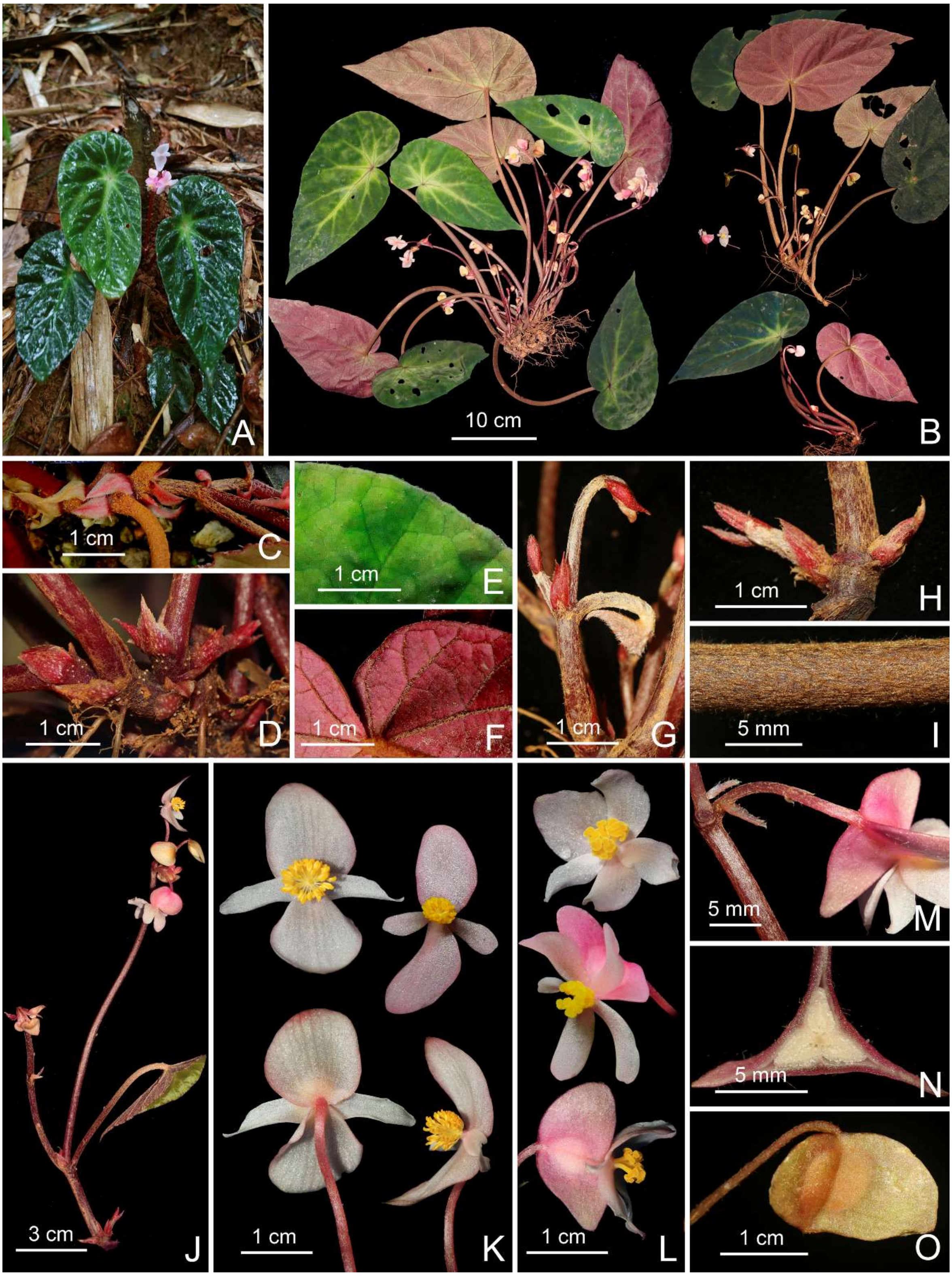

Fig. 2. ***Begonia dinhtuana*** **A.** Habit and habitat; **B.** Habits; **C, D.** Rhizomes, also showing petioles and stipules; **E, F.** Portion of leaf, upper and lower surfaces; **G.** Erect stem, also showing young leaf and inflorescence; **H.** Stipules; **I.** Petiole; **J.** Inflorescence; **K.** Staminate flowers, face, back and side views; **L.** Pistillate flowers, face and side views; **M.** Bracteolets on pistillate pedicel; **N.** Cross section of ovary; **O.** Capsule. Photo A by Trieu Van Nhat, Photos B (left), D, G–J, K (top left, bottom right and bottom left), L (top and bottom), M–O from *TVN-LC 012*, B (top right and bottom right) from *TVN-LC 015* by K.S.Nguyen; Photos C, E, F, K (top right), L (middle) from *C.W.Lin 730* by Weng-Feng Li.

Table 1. Comparison of ***Begonia dinhtuana***, ***B. bacmeensis*** and ***B. dieuanhiae***.

Morphological features	*B. dinhtuana*	*B. bacmeensis*	*B. dieuanhiae*
Stem vestiture	sub-appressed lanate-tomentose	glabrous	tomentose or woolly
Petiole vestiture	sub-appressed tomentose-woolly	glabrous	sub-appressed tomentose or woolly
Leaf			
adaxial texture	subvelutinous	waxy	waxy
abaxial vestiture	lanate-tomentose along veins	glabrous	tomentose along veins
Inflorescence			
peduncle vestiture	sub-appressed lanate-tomentose	glabrous	sericeous or tomentose
Staminate flower			
tepals colour	pale pink to creamy white	pale green	pinkish-white to rosy pink
outer tepals size (mm)	9–18 × 9–13	6–8 × 7	15–25 × 13–17
Pistillate flower			
tepals colour	pale pink to creamy white	pale green	rosy pink
outer tepals size (mm)	8–12 × 4.0–8.5	6–9 × 3.5–5.0	13–17 × 8–10
abaxial wing shape	triangular	triangular	crescent-shaped

long; stipules of the erect stem are similar in shape to those of the rhizome but smaller. **Leaves** alternate, oblique, held horizontally; petiole terete, crimson, 8–25 cm long, 2.5−7.0 mm diameter, densely sub-appressed brownish-yellow tomentose-woolly; leaf blade asymmetric, oblique, lanceolate-ovate to lanceolate, 12−23 × 6–11 cm, broad side 3.5–7.0 cm wide, basal lobes deeply cordate, 3–6 cm long, apex attenuate, margin denticulate, slightly recurved with a line of tomentose; leaf thickly chartaceous, succulent, adaxially bright green to dark malachite green, often adorned with white to pale yellowish-green narrow bands along primary veins, primary and secondary veins crimson to reddish-green, subvelutinous, glabrous to very sparsely scabrescent or verrucose, sometimes slightly blue iridescence; abaxially pale greenish-purple to dark purplish-red, densely lanate-tomentose on all veins; venation basally *ca*. 7 palmate, midrib distinct, *ca*. 3 secondary veins on each side, other primary veins branching dichotomously or nearly so, tertiary veins reticulate; leaves of erect stem similar to terrestrial leaves but smaller. **Inflorescence** protandrous, terminal or axillary on erect stem, bisexual, cymose panicle 2 or 3 orders of branching, sometimes sub-umbellate; peduncle crimson, 5–15 cm long, moderately densely sub-appressed brownish-yellow lanate-tomentose; bracts caducous, orangish-pink to pinkish-yellow or red, narrowly ovate to elliptic, first pair 8–12 × 4–5 mm, abaxially lanate-tomentose, margin denticulate and ciliate; bracts of of the upper inflorescence similar in shape but smaller in size than those at the first pair; flowers emit a faintly agreeable fragrance, subtly reminiscent of *Osmanthus fragrans*. **Staminate flower:** pedicel pink to dusky red, 2.0–3.5 cm long, sub-appressed lanate-tomentose; tepals 4, pale pink to creamy white, margin entire, apex rounded; outer 2 ovate, suborbicular to obovate, 9–18 × 9–13 mm, abaxially subglabrous to very sparsely lanate-tomentose, inner 2 obovate, 7–13 × 3–4 mm; androecium actinomorphic, 4–7 mm across; stamens golden yellow, 60–90, filaments fused at base; anthers narrowly obovate, 1.3–2.0 mm long, 2-locular, apex rounded, filaments 1–3 mm long. **Pistillate flower:** pedicel rosy pink, 1.0–1.6 cm long, sub-appressed lanate-tomentose, sometimes with 1–4 bracteolets; tepals 5, pale pink to creamy white, margin entire, apex rounded; outer 4 narrowly oblong-elliptic to obovate-elliptic or ovate, 8–12 × 4.0–8.5 mm, abaxially glabrous to very sparsely lanate-tomentose; inner 1 narrowly oblong-elliptic, 8–9 × 2.5–4.0 mm, glabrous; ovary pink to yellowish-pink, trigonous-globose, 6–8 mm long, 6–8 mm thick (wings excluded), glabrous or very sparsely lanate-tomentose; 3-winged, wings unequal, pink, triangular to narrowly triangular, 10–12 mm long, margin entire, rounded to obtuse proximally, truncate distally; abaxial wing 6–9 mm wide, lateral wings narrower, 3–7 mm wide; ovary 3-locular, placenta bilamellate; styles 3, yellow, fused at base, U-shaped, *ca*. 4 mm long, stigma spirally twisted. **Capsule** pendent on a stalk 1.7–3.0 cm long, tepals caducous, capsule 11–13 mm long, 18–22 mm thick (wings included).

Distribution and ecology**:** *Begonia dinhtuana* is highly endemic to the lowland forests of shale stone mountains in the Northern Vietnam. The species is recorded from Tuyen Quang (former Ha Giang) and Lao Cai Provinces. The new species usually grows on shaded steep slopes in mixed broad-leaved and bamboo forests at an elevations up to 500 m a.s.l.

Etymology**:** The specific epithet honors Trieu Dinh Tu, son of the collector Trieu Van Nhat, in recognition of his support for his father's work on the flora of Vietnam.

Proposed IUCN conservation status**:** In accordance with the Guidelines for Using the IUCN Red List Categories and Criteria version 16 (IUCN, 2024), we tentatively assess its conservation status as Data Deficient (DD) because of insufficient data on mature individuals in each population.

Note**:** *Begonia dinhtuana* closely resembles *B. bacmeensis* (Table 1) in its lanceolate leaves and inflorescences borne exclusively on erect stems. However, *B. dinhtuana* is distinguished by its stems and petioles densely covered with lanate-tomentose (*vs.* glabrous) hairs, the adaxial surface lamina glabrous to very sparsely scabrescent or verrucose (*vs.* completely glabrous), and densely lanate-tomentose (*vs.* glabrous) along the veins abaxially, pale pink to creamy white (*vs.* pale green) tepals in both staminate and pistillate flowers, and ovary with three (*vs.* two) locules. Additionally, *B. dinhtuana* bears morphological resemblance to *B. dieuanhiae* T.S.Hoang & C.W.Lin (Hoang and Lin, 2022), particularly in its densely lanate-tomentose stems and petioles, ovate leaf blades, ciliate-margined bracts, and 3-loculed ovary. However, *B. dinhtuana* can be distinguished by its subvelutinous (*vs.* waxy) adaxial leaf surface, which is glabrous or very sparsely covered with scabrescent to verrucose (*vs.* glabrous or very sparsely appressed sericeous) indumentum, smaller (8–12 × 4.0–8.5 mm *vs.* 13–17 × 8–10 mm) outer tepals in pistillate flowers, and triangular (*vs.* crescent-shaped) ovary wings.

Additional specimens examined (paratype): VIETNAM. Northwestern Vietnam, Lao Cai Province: Duong Quy Commune (former Van Ban District, Duong Quy Commune), Nam Tun Village, remnants of primary evergreen broad-leaved forest on shale stone mountain, 22.059731° N,104.174939° E, elev. 400–500 m a.s.l., not rare, 28 April 2025, *Trieu Van Nhat, TVN-LC 015* (HN). Northeastern Vietnam, Tuyen Quang Province (former Ha Giang Province), 21 Feb. 2025, *C.W.Lin 730* (TAIF).

Begonia caelata K.S.Nguyen, V.T.Bui & C.W.Lin, ***sp. nov.*** **Figs. 3, 4**

§ *Platycentrum*

Type: VIETNAM. Northwestern Vietnam, Lao Cai Province: Van Ban Commune (former Van Ban District, Hoa Mac Commune), Mac Village, remnants of primary evergreen broad-leaved forest on shale stone mountain, 22.076642° N, 104.168520° E, elev. 300–400 m a.s.l, on near base to middle slopes of mountain, not rare, 16 April 2025, *Trieu Van Nhat, TVN-LC 013* (Holotype: HN; Isotypes: HN).

Diagnosis: In its ovate, hairy leaves, 4-tepaled staminate and 5-tepaled pistillate flowers, and 3-loculed ovary, it resembles *B. obsolescens* Irmsch. (Irmscher, 1951), but differs in the adaxial leaf surface being moderately densely hirsute-puberulous (*vs.* sparsely hispidulous), inflorescences borne on an erect stem (*vs.* arising from the rhizome), bracts persistent (*vs.* caducous), anthers with rounded apices (*vs.* emarginate), and styles orange to orangish-red (*vs.* yellow).

Monoecious rhizomatous herb. **Rhizome** stout, creeping, pale brownish-green, often zig-zag, 6–10 mm thick, internodes 6–20 mm long, densely white hirsute-villous (up to 7 mm long) mixed with minute, appressed brown glandular trichomes (*ca.* 0.1 mm long); leafless erect stem seen only at anthesis, pale brownish-red, 2–5 nodes, internodes 1.5−5.0 cm long, 2–4 mm thick, densely white hirsute-villous (2–5 mm long) mixed with minute, appressed brown glandular trichomes (*ca.* 0.1 mm long). **Stipules** semi-persistent, pale brownish-green to yellowish-green, triangular, 8–10 × 7–8 mm, herbaceous, keeled, abaxial white hirsute-villous mixed with minute, appressed brown glandular trichomes, margin entire, apex aristate, arista *ca.* 2 mm long; stipules of the erect stem are similar in shape to those of the rhizome but smaller. **Leaves** alternate, petiole terete, pale brownish-red or pale green tinged reddish toward apex, (5−)8−24 cm long, 2.5−5.0 mm thick, densely white hirsute-villous mixed with minute, appressed brown glandular trichomes; leaf blade asymmetric, ovate, oblique, with a well-developed basal lobe on one side giving a cordate appearance, 13.5−28.5 × 7.5–17.0 cm, broad side 4.2–10.0 cm wide, basal lobes cordate, 2.7–6.5 cm long, margin denticulate with rows of white hirsute-puberulous, apex acuminate to caudate; leaf chartaceous, succulent, adaxially yellowish-green to bright green, moderately densely white hirsute-puberulous (1.0−1.5 mm long), corrugate, giving a wrinkled texture; abaxially whitish-green or pale purplish-green, moderately densely white hirsute-puberulous, more densely on veins; venation basally *ca.* 8 palmate, midrib distinct, *ca.* 3 secondary veins on each side, other primary veins branching dichotomously or nearly so, tertiary veins reticulate. **Inflorescence** protandrous, terminal or axillary on erect stem, bisexual, cymose panicle 1 or 2 orders of branching, sometimes sub-umbellate; peduncle greyish-red to yellowish-pink, the lowermost peduncle measuring 9–13 cm in length, with progressively shorter upper peduncles; moderately densely white hirsute-villous mixed with minute, appressed brown glandular trichomes; bracts persistent, pink to pale green, ovate, obovate to elliptic, first pair 4–5 × 2–3 mm, abaxially white hirsute-villous mixed with minute, brown glandular trichomes, margin denticulate, ciliate; bracts of the upper inflorescence similar in shape but smaller in size than those at the first pair. **Staminate flower:** pedicel pinkish-yellow to greenish-white, 1.0–1.5 cm long, moderately sparsely gland-tipped hirsute mixed with minutely glands; tepals 4, pinkish-white, or white tinged pink toward apex, outer 2 suborbicular, oblong-elliptic to narrowly obovate, 10–15 × 7–10 mm, abaxillary hirsute; inner 2 narrowly elliptic to obovate-lanceolate, 9–14 × 3–5 mm, glabrous; androecium actinomorphic, *ca.* 4.5 mm across; stamens golden yellow, 100–120, filaments fused at base, anthers narrowly obovate to oblong, 0.8–1.2 mm long, 2-locular, apex rounded, filaments 1–1.5 mm. **Pistillate flower:** pedicel white tinged red toward apex, *ca.* 6 mm long, moderately sparsely hirsute or gland-tipped hirsute mixed with minutely glands; tepals 5, pinkish-white, or white tinged pink toward apex, outer 4 widely elliptic to oblong-obovate, 6–10 × 5–6 mm, abaxially very sparsely hirsute or gland-tipped hirsute; inner 1 narrowly obovate to elliptic, 5.5–9.0 × 3.5–4.0 mm, glabrous; ovary trigonous-globose, *ca.* 4 mm long, 4 mm thick (wings excluded), creamy white with a reddish tint along the midline; 3-winged, wings unequal, creamy white, *ca.* 6 mm long, sparsely hirsute, margin entire, rounded proximally; lateral wings very narrowly crescent-shaped, 0.5–1.5 mm wide, rounded distally, abaxial wing narrowly trapezoid to narrowly triangular, 1.5–2.0 mm wide, truncate distally; ovary 3-locular, hirsute mixed with gland-tipped hirsute,

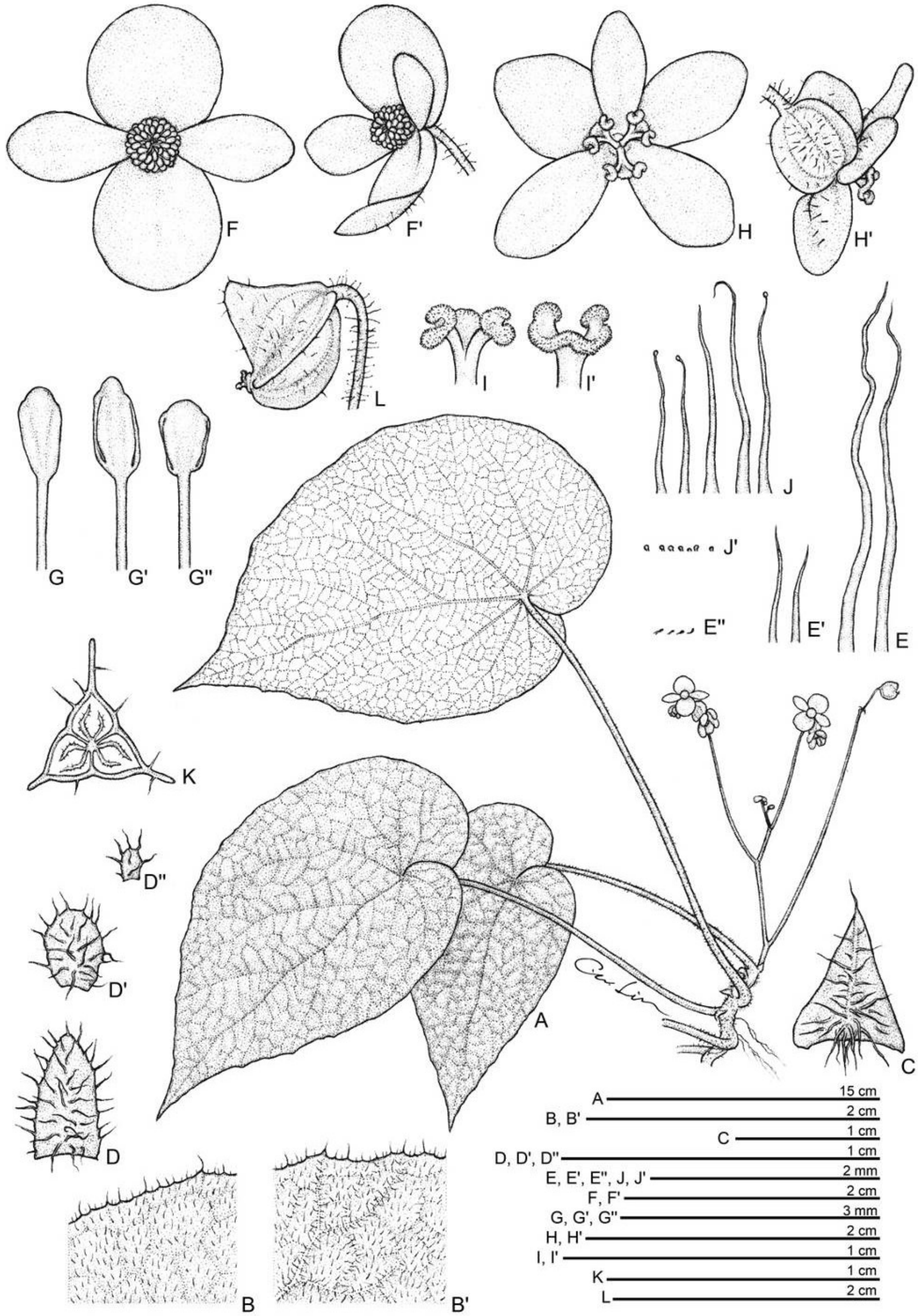

Fig. 3. ***Begonia caelata***. **A.** Habit; **B, B'.** Portion of leaf, upper and lower surfaces; **C.** Stipule; **D–D''.** Bracts; **E–E''.** Indumentum of stem, petiole and leaf: **E.** hirsute-villous; **E'.** hirsute-puberulous; **E''.** appressed brown glandular trichomes; **F, F'.** Staminate flower, face and side views; **G–G''.** Stamens, dorsal and ventral views; **H, H'.** Pistillate flower, face and side views; **I, I'.** Style and stigmatic band, ventral and dorsal views; **J, J'.** Indumentum of flowers: **J.** hirsute and gland-tipped hirsute; **J'**. glands; **K.** Cross section of ovary; **L.** Capsule. Drawn from the type, *TVN-LC 012* by Che-Wei Lin.

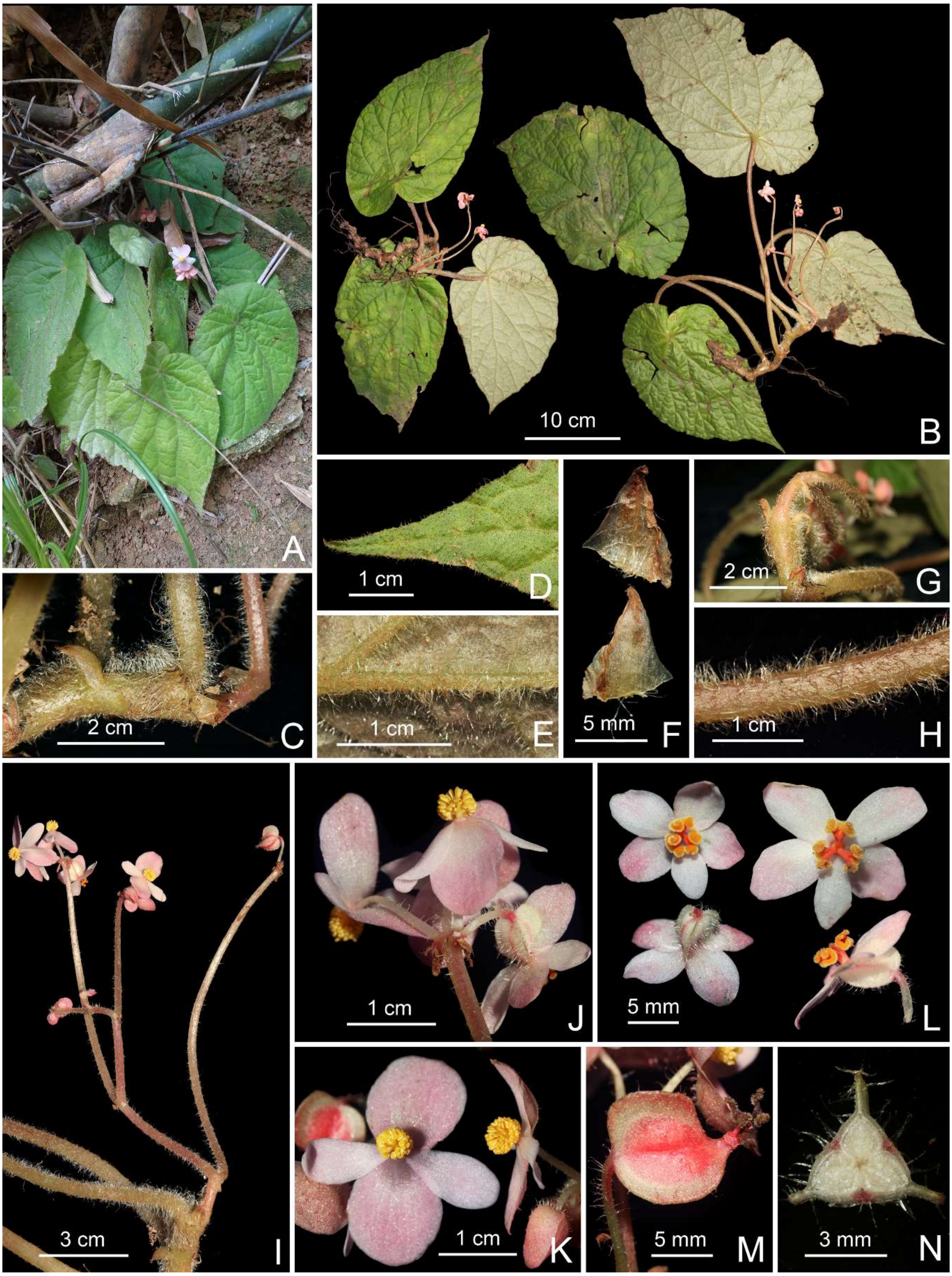

Fig. 4. ***Begonia caelata***. **A.** Habit and habitat; **B.** Habits; **C.** Rhizome and erect stem; **D, E.** Portion of leaf, upper and lower surfaces; **F.** Stipule, adaxial and abaxial views; **G.** Stem, also showing stipules; **H.** Petiole; **I.** Inflorescences on erect stem; **J.** Inflorescence, also showing bracts; **K.** Staminate flowers, face and side views; **L.** Pistillate flowers, face, back and side views; **M.** Capsule; **N.** Cross section of ovary. Photo A by Trieu Van Nhat, B–N by K.S.Nguyen of plants used for the preparation of type herbarium specimen *TVN-LC 013*.

Table 2. Comparison of ***Begonia caelata***, ***B. obsolescens*** and ***B. oreodaxa***.

Morphological features	*B. caelata*	*B. obsolescens*	*B. oreodaxa*
Leaf			
adaxial vestiture	moderately densely hirsute-puberulous	sparsely hispidulous	moderately densely hirsute
Inflorescence			
peduncle vestiture	moderately densely hirsute-villous mixed with minute, appressed glandular trichomes	moderately densely villous	moderately sparsely villous
bracts	persistent	caducous	caducous
Staminate flower			
pedicel vestiture	gland-tipped hirsute mixed with minutely glands	villous	glabrous or sparsely villous
anthers apex	rounded	emarginate	emarginate
Pistillate flower			
pedicel vestiture	hirsute or gland-tipped hirsute mixed with minutely glands	villous	glabrous or sparsely villous
number of tepals	5	5	3 or 4
styles colour	orange to orangish-red	yellow	yellow
ovary locules	3	3	2

and minutely glands, placenta bilamellate; styles 3, fused at base, orange to orangish-red, *ca.* 3 mm long, stigmatic band Y-shaped, stigma strongly spirally twisted. **Capsule** pendent on a stalk *ca*. 12 mm long, tepals caducous, capsule *ca*. 8 mm long, 1 cm thick (wings included).

***Distribution and ecology*:** *Begonia caelata* is currently known only from the type locality, Van Ban Commune (former Van Ban District, Hoa Mac Commune), Mac Village. It grows on soil from near base to middle slopes of shale stone mountain, at an elevation of 300–400 m a.s.l, which is covered by remnants of primary evergreen broad-leaved forest.

***Etymology*:** The specific epithet *caelata* refers to the wrinkled, relief-like texture of the leaf surface, reminiscent of carved or engraved patterns.

***Proposed IUCN conservation status*:** In accordance with the Guidelines for Using the IUCN Red List Categories and Criteria version *16* (IUCN, 2024), we tentatively assess its conservation status as Data Deficient (DD) because of insufficient data of matured individuals of the single population.

***Notes*:** *Begonia caelata* is characterized by its ovate, hirsute leaves, 4-tepaled staminate flower, 5-tepaled pistillate flowers, and a 3-loculed ovary, it bears resemblance to *B. obsolescens*; however, the new species can be readily distinguished from *B. obsolescens* by several morphological features: the adaxial leaf surface is moderately densely covered with white hirsute-puberulous (*vs.* moderately sparsely hispidulous), inflorescences are borne on a leafless, erect stem (*vs.* arising directly from the rhizome), bracts persistent (*vs.* caducous), staminate pedicels bear gland-tipped hairs (*vs.* lacking such hairs), anther apex rounded (*vs.* emarginate), and the styles are orange to orangish-red (*vs.* yellow) in color. The new species is also similar to *B. oreodoxa* Chun & F.Chun *ex* C.Y.Wu & T.C.Ku (Wu and Ku, 1995) in vegetative characters but differs by having the pedicels of both staminate and pistillate flowers covered with gland-tipped hirsute (vs. glabrous or sparsely villous), anthers with rounded apices (vs. emarginate), pistillate flowers with 5 tepals (vs. 3 or 4), and a 3-locular ovary (vs. 2-locular). A comparison of *B. caelata* with these two phenetically similar species is presented in Table 2.

ACKNOWLEDGMENTS

We are grateful to Mr. Trieu Van Nhat from Lao Cai Province who provided photos of plants living in the nature and sent material to Hanoi, and Mr. Weng-Feng Li for sharing photographs and material from greenhouse collections for our study. This research was supported by the Vietnam Academy of Science and Technology (VAST) under grant number coded UQDTCB.06/24-26.

LITERATURE CITED

Anh, T.T.P., Thanh, N.T., Quang, B.H., Binh, T.D., Thanh, T.X., Le, A.T., Nguyen, K.S., Lin, C.W. 2024 *Begonia triquetra* (sect. *Platycentrum*, Begoniaceae), a new subpeltate-leaved species from limestone hills in Son La Province, Northwestern Vietnam. Phytotaxa **674(3)**: 281–287.

Averyanov, L.V., Nguyen, K.S., Maisak, T.V., Nguyen, H.T., Nguyen, H.Q. 2019 Two new species of *Begonia* L. (Begoniaceae) from central Laos. Turczaninowia **22(2)**: 134–141.

Averyanov, L.V., Nuraliev, M.S., Konstantinov, E.L., Maisak, T.V., Kopylov-Guskov, Y.O., Lyskov, D.F., Quang, B.H., Kuznetsov, A.N., Kuznetsov, S.P., Nguyen, K.S., Shui, Y.M. 2021 New and noteworthy species of *Begonia* (Begoniaceae) from Vietnam and Laos. Phytotaxa **522(2)**: 75–93.

Bon, T.N., Do, T.T.H., Le, T.H., Lo, M.D., Zimmer, H.D., Lin, C.W. 2023a *Begonia saxifragoides* sp. nov. and two new records of *Begonia* (Begoniaceae) from northern Vietnam. Phytotaxa **600(1)**: 16–24.

Bon, T.N., Gratzfeld, J., Tuyet, T.T.A., Lin, C.W. 2023b *Begonia tui*, a new species of *Begonia* sect. *Coelocentrum* from Quang Binh Province, Central Vietnam. Taiwania **68(4)**: 412–416.

Bui, D.T., Nguyen, C.H., Tran, T.N., Nguyen, L.V., Lin, C.W. 2024 *Begonia nahauensis* (sect. *Platycentrum*, Begoniaceae), a new species from northern Vietnam. Phytotaxa **662(1)**: 115–120.

Hoang, T.S., Lin, C.W., Vu, A.T. 2021a A new species and record for the genus *Begonia* (Begoniaceae) from Vietnam. Taiwania **66(3)**: 317–325.

Hoang, T.S., Lin, C.W. 2021b Two new species of *Begonia* (sect. *Platycentrum*, Begoniaceae) from the Central Highlands of Vietnam: *B. villosula* and *B. lophura*. Phytotaxa **510(3)**: 263–274.

Hoang, T.S., Lin, C.W. 2022a *Begonia tuanii* (sect. *Platycentrum*, Begoniaceae), a new species from Lao Cai Province, North Vietnam. Phytotaxa **567(3)**: 294–300.

Hoang, T.S., Lin, C.W. 2022b Two new species, *Begonia minhaniae* and *B. dieuanhiae* (sect. *Platycentrum*, Begoniaceae), from northwestern Vietnam. Phytotaxa **572(1)**: 87–96.

Hughes, M., Moonlight, P.W., Jara, A., Pullan, M. 2015–Present *Begonia* Resource Centre. Available from: http://padme.rbge.org.uk/begonia [accessed 28 July 2025]

Irmscher, E. 1951 Some new Chinese species of *Begonia*. Notes Roy. Bot. Gard. Edinburgh **21**: 35–45.

IUCN Standards and Petitions Committee 2024 Guidelines for Using the IUCN Red List Categories and Criteria, version 16. Prepared by the Standards and Petitions Committee, 122 pp. [https://www.iucnredlist.org/documents/RedListGuidelines.pdf] (accessed 28 July 2025)

Lanorsavanh, S., Souvannakhoummane, K., Lamxay, V., Chanthavongsa, K. 2021 Two new species and a new record of *Begonia* (Begoniaceae) from Vangvieng karst limestone in central Laos. Thai Forest Bull., Bot. **49(2)**: 191–200.

Lin, C.W., Hsu, T.C., Luu, H.T., Nguyen, I.L.P.T., Yang, T.Y.A., Li, C.W. 2021 Revision of *Begonia* (Begoniaceae) in Bidoup-Nui Ba National Park, Southern Vietnam, including two new species. Phytotaxa **496(1)**: 77–89.

Lin, C.W., Phonepaseuth, P., Rahm, P. 2022 *Begonia xenos*—a new species and an updated checklist of *Begonia* in Laos. Phytotaxa **543(3)**: 193–202.

Luu, H.T., Duong, Q.H., Le, K.Q., Lin, C.W. 2022 *Begonia yentuensis* and *B. khaucaensis* (Begoniaceae), two new species from northern Vietnam. Phytotaxa **560(2)**: 222–232.

Nguyen, C.H., Le, A.T., Ha, V.B., Lin, C.W. 2024 *Begonia dakrongensis* (Begoniaceae), a new species from Dakrong Nature Reserve, Quang Tri Province in Central Vietnam. Phytotaxa **645(1)**: 85–90.

Nguyen, C.H., Bui, H.V., Le, A.T., Pham, D.V., Lin, C.W. 2025 Five new species of *Begonia* (Begoniaceae) from Vietnam. Phytotaxa **698(2)**: 82–100.

Pham, V.T., Trinh, N.B., Phan, K.L., Lin, C.W. 2019 Two new species, *Begonia dinhdui* and *B. bacmeensis* (Begoniaceae), from Vietnam. Phytotaxa **427(1)**: 22–30.

Pham, V.T., Dinh, Q.D., Nguyen, V.C., Trinh, N.B., Nguyen, D.D., Nguyen, T.H., Lin, C.W. 2021 *Begonia* of Vietnam: an updated checklist, including a new species and a new record. Phytotaxa **507(2)**: 144–154.

Shui, Y.M., Vu, C.T., Le, T.A., Pham, T.T.D., Nguyen, V.D., Duong, T.M.H., Lei, L.G. 2019 Two new cane-like species of *Begonia* L. (Begoniaceae) from central Vietnam. Phytotaxa **411(1)**: 57–64.

Souvannakhoummane, K., Lanorsavanh, S., Averyanov, L.V., Lamxay, V. 2021 Seven new species and seven new records of *Begonia* L. (Begoniaceae) in the flora of Laos. Turczaninowia **24(2)**: 99–119.

Tian, D.K., Hoang, T.S., Wang, W.G., Chen, B. 2025 Six new species of *Begonia* from northern Vietnam. Taiwania **70(2)**: 320–330.

Wu, C.Y., Ku., T.C. 1995 New taxa of the *Begonia* L. (Begoniaceae) from China. Acta Phytotax. Sin. **33(3)**: 251–280.