Korean Journal of Plant Taxonomy
55(4): 306–312, 2025

pISSN 1225-8318
eISSN 2466-1546

SHORT COMMUNICATION
https://doi.org/10.11110/kjpt.2025.55.4.306

A new distribution record of *Serissa serissoides* (Rubiaceae) in Korea

Myoung Ja NAM, Kwi-Kwan JEONG[1], Jeong-Nam YU[2]* and Jin Hee PARK[2]*

The Society for Korean Peninsula Plants (Citizen Researcher), Anyang 14069, Korea
[1]Yeosu Post Office, Korea Post (Citizen Researcher), Yeosu 59676, Korea
[2]Animal & Plant Research Division, Diversity Conservation Department, Nakdonggang National Institute of Biological Resources, Sangju 37242, Korea

Corresponding author
Jin Hee PARK
E-mail: parkjh23@nnibr.re.kr
Jeong-Nam YU
E-mail: susia000@nnibr.re.kr

ABSTRACT: We report a new distribution of *Serissa serissoides* (DC.) Druce on the Korean Peninsula. This species was initially reported in Jiangxi Province, China, and is distributed in Anhui, Fujian, Guangdong, Guangxi, Hubei, Jiangsu, Jiangxi, Zhejiang, and Taiwan. Recently, we found it in Jeollanam Province, South Korea. *Serissa serissoides* is readily distinguished from the only other species in the genus, *S. japonica*, by its inflorescence, flower, and fruit morphology. We provide a morphological description, photographs, and a key to related taxa. We give this species a new Korean name, *Shin-an-baek-jeong-hwa*, derived from the name of the area where it was found.

KEYWORDS: holotype specimen, morphological characters, native species, *Serissa japonica*, unrecorded species

RECEIVED 15 November 2025; **REVISED** 13 December 2025; **ACCEPTED** 15 December 2025

INTRODUCTION

The genus *Serissa* Comm. ex Juss. is composed of two East Asian species in Rubiaceae, a cosmopolitan family with ca. 11,500 species worldwide (Chen et al., 2011). These plants of the genus are small shrubs with heterostylous bisexual flowers on terminal and axillary short shoots, with elongated principal stems that sometimes bear lateral branches. Its plants are primarily distributed in warm temperate to tropical regions (Yamazaki, 1993; Yang, 1998; Puff et al., 2005).

There are two species, *S. japonica* (Thunb.) Thunb. and *S. serissoides* (DC.) Druce, in the genus *Serissa*. The two species are distinguished from each other by certain leaf, flower, and fruit characters (Yamazaki, 1993; Yang, 1998; Chen et al., 2011). Thus far, *S. japonica* and *S. serissoides* are known to be distributed in several areas of East Asia, including South Central and East China, Taiwan, Japan, Korea, and Southeast Asia, and the distribution areas of the two species are overlapped.

In this study, we report a new distribution of *S. serissoides* based on our research data and collection efforts on Amtaedo Island in Shin-an-gun, Jeollanam Province, Korea (Fig. 1). We provide its morphological description, photographs, and a key to related taxa in Korea.

TAXONOMIC TREATMENT

Serissa serissoides (DC.) Druce, Rep. Bot. Soc. Exch. Club Brit. Isles 4: 646, 1917; *Democritea serissoides* DC., Prodr. 4: 540, 1830.—TYPE: CHINA. Jiangxi Prov.: Without locality and date (1793?), *G. L. Staunton s.n.* (holotype: G-DC [3-part specimen: G00316601] Photos!) (Fig. 2).

Leptodermis nervosa Hutch. in C. S. Sargent, Pl. Wilson. 3: 404–405, 1916.

Serissa democritea Baillon, nom. illeg., Hist. Pl. 7: 386, 1880.

Korean name: Shin-an-baek-jeong-hwa (신안백정화).

Shrubs deciduous or [evergreen], hermaphroditic, unarmed, to 1 m tall. **Stems** erect, branched, branches subterete to terete, thin or stout, new ones purplish, pilosulous, and older ones gray, glabrescent or pubescent. **Leaves** simple, opposite, but crowded at terminal, appearing verticillate, subsessile; stipules often fused to petioles, with (2–) 3 (–5) spinelike bristles, persistent, later yellowish brown; blades elliptic, ovate to obovate, lanceolate to oblanceolate, 1–3.5 × 0.8–1.9 cm, apex acute or mucronulate, base acute or cuneate, margins entire,

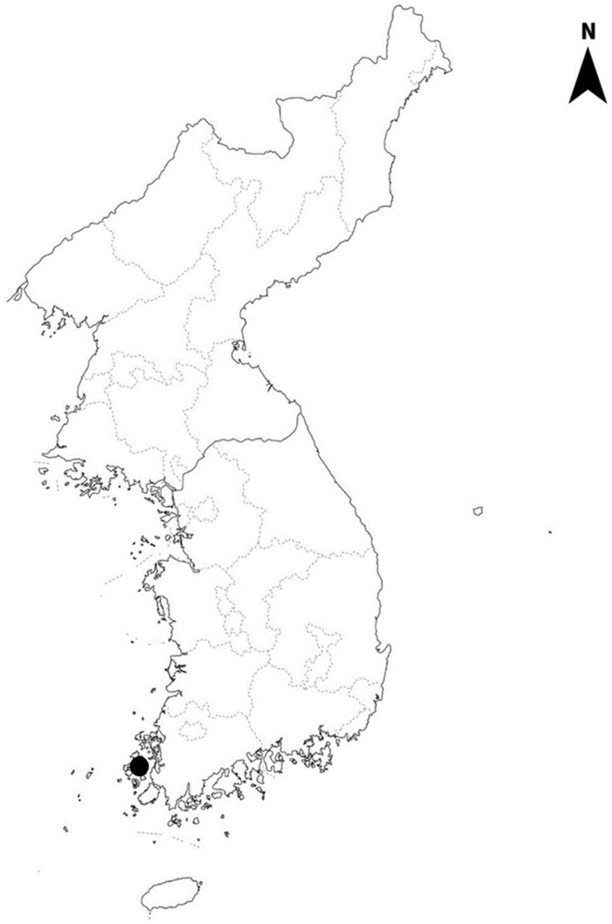

Fig. 1. Distribution of *Serissa serissoides* (DC.) Druce in Korea (●).

slightly revolute, upper surfaces glabrous except main vain, lower surfaces pubescent with a raised midrib and 2–4 pairs of lateral nerves. **Inflorescences** terminal on principal stems and/or terminal on axillary short shoots being apparently axillary, capitate, 1–2 flowered to several (up to ca. 10) flowered, bracteate. **Flowers** sessile or subsessile, bisexual, heterostylous, (4-) or 5-merous; calyx gamosepalous, obconical, (4-), 5-, or (6-)lobed, glabrous on the outer surface, hairy on the margin and inner surface, 4–7 mm long, persistent, lobes narrowly triangular, acuminate, 2–4 mm long; corolla white, funnelform or tubular-funnelform, (4-), 5-, or (6-)lobed, glabrous on outer surface, villous on the margin and inner surface, ca. 10 mm long, lobes narrowly triangular to lanceolate, reflexed, ca. 4 mm long, apex acute to mucronulate; stamens (4)–5–(6), antesepalous, inserted in upper part of corolla tube, included (pin type flower) or exserted (thrum type flower), filaments short or developed, glabrous, anthers dorsifixed; pistil 1, ovary inferior, 2-locular, style 1, slender, glabrous, included (thrum type flower) or exserted (pin type flower), 7–9 mm long (pin type flower), bifid at the upper part, style branches twisted into a round shape with a villous stigmatic surface at the end. **Fruits** drupaceous, capsular, schizocarpous, turbinate or obconical, 4–8 mm long, with calyx lobes persistent, 1- or 2-seeded. **Seeds** pyrenes 1 or 2, turbinate or obconical, obovoid to narrowly obovoid, longitudinally ridged, 1.3–3 × 1–2 mm, length/width = 1.2–2.0(–2.5).

Flowering: Jun to Sep.

Fruiting: Sep to Nov.

Distribution: Korea (Jeollanam-do), China (Anhui, Fujian, Guangdong, Guangxi, Hubei, Jiangsu, Jiangxi, Zhejiang), Taiwan (Hualien, Taichung, Taoyuan).

Voucher specimens: KOREA. Jeollanam-do: Shinan-gun, Amtae-myeon, Sinseok-ri, San493, Mt. Bakdalsan on Amtaedo Island, elev. 10–50 m a.s.l., 21 Jul 2025, *Jin Hee Park and Myoung Ja Nam, Park and Nam 1-1, 1-2, 1-3, 2, 3-1, 3-2* (Fig. 3.), 4, 5, 6, 7, 8, 9 (NNIBRVP161357–NNIBRVP161368) (NNH); 23 Sep 2025, *Jin Hee Park and Myoung Ja Nam, Park and Nam 20250923-1, -2, -3, 20250923-3-2, 20250923-4* (NNIBRVP161369–NNIBRVP161373) (NNH); 31 Oct 2025, *Jin Hee Park and Myoung Ja Nam, Park and Nam 20251031-1, -2, -3, -4, -5* (NNIBRVP161374–NNIBRVP161378) (NNH); 29 Oct 2024, *Myoung Ja Nam, Nam 20241029-1, -2* (NNIBRVP161379–NNIBRVP161380) (NNH).

A key to the species of *Serissa* in Korea

1. Leaf blades drying stiffly papery to leathery, 0.6–2.2 × 0.3–1.0(–1.3) cm, margins white to creamy yellow or not; flowers 1–2(–3) on the terminal of principal stems and 1–2 on the terminal of axillary short shoots; calyx lobes triangular, acute, ca. 1 mm, shorter than corolla tubes; corolla 1–2 cm long, 1–1.5 cm in diam., white with pinkish stripes on the inner surface, or pinkish; corolla lobes winged; fruits 2.5–4 mm; pyrenes turbinate or obovoid, 1.2–2.8 × 1–2 mm, length/width = 1–1.4 ····· *S. japonica*
1. Leaf blades drying thinly papery, 1–4 × 0.7–1.9 cm, margins not variegated; flowers (1 or 2 or) several on the terminal of principal stems and 1 or 2, or several on the terminal of axillary short shoots; calyx lobes narrowly triangular, acuminate, 2–4 mm, as long as corolla tubes; corolla less than 1 cm in length and diam., white with no stripes on the inner surface; corolla lobes not winged; fruits 4–7 mm; pyrenes turbinate to narrowly turbinate or obovoid to narrowly obovoid, 1.3–2.8 × 1–1.8 mm, length/width = 1.2–2.0 ····· ***S. serissoides***

Taxonomic note: The species *Serissa serissoides* was initially reported as *Democritea serissoides* DC. (De Candolle,

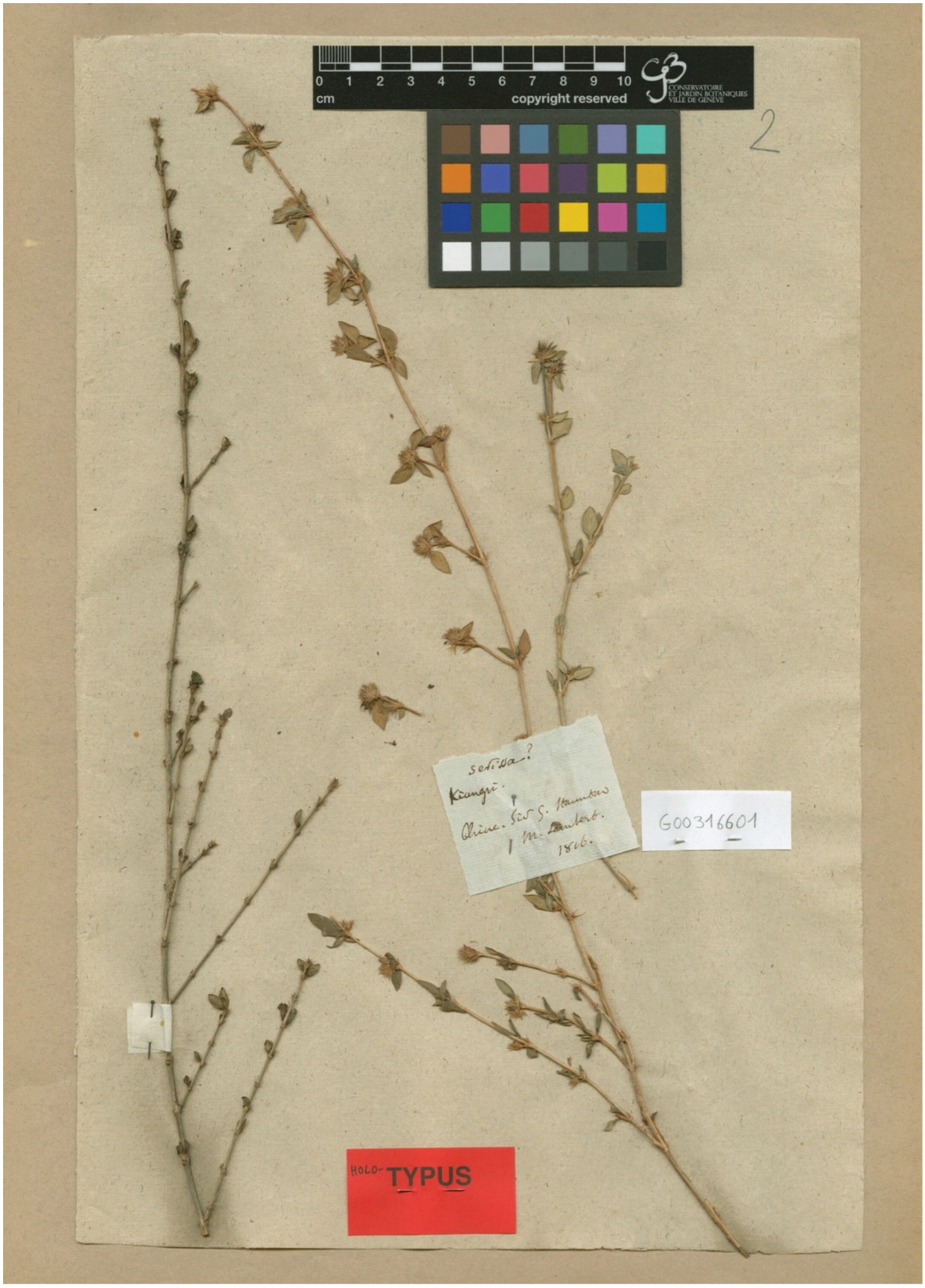

Fig. 2. Holotype specimen of *Democritea serissoides* DC. (≡ *Serissa serissoides* (DC.) Druce) in G-DC, collected by G. L. Staunton in Jiangxi, China (*G. L. Staunton s.n.*, G-DC [3-part specimen: G00316601]). This photograph is of one of three sheets of the holotype specimen. Photo courtesy of Conservatoire & Jardin botaniques de la Ville de Genève.

Fig. 3. One of the voucher specimens of *Serissa serissoides* collected from Mt. Bakdalsan on Amtaedo Island, Amtae-myeon, Shin-an-gun, Jeollanam-do, Korea, by the authors (voucher No. NNIBRVP161362. NNH).

1830). Since then, it has also been reported in south-central, east, and southeast China, and in Taiwan (Yang, 1998; Chen et al., 2011). As A. P. De Candolle was recognizing a new genus, *Democritea*, in the family Rubiaceae based on a specimen collected in China in 1793 by G. L. Staunton, he simultaneously established the new species *Democritea serissoides* under that genus. Later, Druce recognized this species under the genus *Serissa*, creating the new combination *Serissa serissoides* (DC.) Druce (Druce, 1917).

When A. P. De Candolle established the new species *Democritea serissoides*, he used the specimen comprising three sheets collected by G. L. Staunton in China during his travels with the Macartney Embassy (1793–1794). Currently, G. L. Staunton's three sheets of the species are designated as the holotype specimen (3-part specimen: G-DC [G00316601]) in the Geneva Herbarium (G) (https://collections.geneve.ch/cjbg/chg/adetail.php?id=256224&base=img&lang=en), being treated as a single specimen, not duplicates (see *Article 8.3. Ex. 9* of the International Code of Nomenclature for Algae, Fungi, and Plants; Turland et al., 2018). Although the holotype specimen lacks a specimen label with location or date information, one of several annotation labels attached to the holotype specimen of *Democritea serissoides* reads "Kiangsi," indicating that the specimen was collected in Jiangxi Province in China (Fig. 2). We can also infer the locality and the date of collection by considering the historical route of the Macartney Embassy in China and the literature that G. L. Staunton wrote (Staunton, 1797), where "the list of Plants in the Provinces of Kiang-see and Canton" contains "*Serissa* Jussiaei" (Staunton, 1797, Pp. 524–525).

Here, we report for the first time the distribution of *Serissa serissoides* in Korea (Figs. 1, 3). This species was first found by the second author of this paper, approximately 100 m from the seashore on the eastern slope of Mt. Bakdalsan on Amtaedo Island in Shinan-gun, Jeollanam Province, in 2021. The distribution in Korea is restricted to a small area with a radius of about 100 m, near the coast. Part of this site is planted with Japanese false cypress trees, *Chamaecyparis obtusa* (Siebold & Zucc.) Endl., which are approximately ten years old. We give this species a new Korean name, Shin-an-baek-jeong-hwa, derived from the county name where the plant was first found (on the southwest coast of the Korean Peninsula).

The *Serissa serissoides* population on Mt. Bakdalsan on Amtaedo Island in Shinan-gun comprises ca. 200 individuals. They occur in small furrows, in the shade of other shrubs or herbs, or at forest edges. The site lies at elevations of ca. 10–50 m. Tree vegetation includes *Pinus thunbergii* Parl., *Chamaecyparis obtusa* (Siebold & Zucc.) Endl., *Quercus serrata* Murray, *Toxicodendron sylvestre* (Siebold & Zucc.) Kuntze, *Mallotus japonicus* (L. f.) Müll., *Melia azedarach* L., and *Styrax japonicus* Siebold & Zucc. Shrub vegetation includes *Eurya japonica* Thunb., *Rubus corchorifolius* L. f., *Rubus parvifolius* L., *Callicarpa mollis* Siebold & Zucc., *Caryopteris incana* (Thunb. ex Houtt.) Miq., *Viburnum carlesii* var. *bitchiuense* (Makino) Nakai, *Lespedeza bicolor* Turcz., and *Lespedeza maximowiczii* C. K. Schneid. Vine vegetation includes *Trachelospermum asiaticum* (Siebold & Zucc.) Nakai, *Paederia foetida* L., *Dioscorea quinquelobata* Thunb., *Vitis ficifolia* var. *sinuata* (Regel) H. Hara, *Ampelopsis brevipedunculata* (Maxim.) Trautv., *Lonicera japonica* Thunb., *Smilax china* L., and *Rosa multiflora* Thunb. Herbaceous vegetation includes *Miscanthus sinensis* Andersson, *Themeda triandra* Forssk., *Calamagrostis arundinacea* (L.) Roth, *Pogonia japonica* Rchb. f., *Bletilla striata* (Thunb.) Rchb. f., *Spiranthes sinensis* (Pers.) Ames, *Allium thunbergii* G. Don, *Solidago virgaurea* subsp. *asiatica* Kitam. ex H. Hara, *Aster scaber* Thunb., *Dendranthema indicum* (L.) Des Moul., *Adenophora polyantha* Nakai, *Gentiana scabra* Bunge, *Isodon inflexus* (Thunb.) Kudo, *Mosla punctulata* (J. F. Gmel.) Nakai, *Prunella asiatica* Nakai, *Torilis scabra* (Thunb.) DC., *Sanguisorba officinalis* L., and *Pteridium aquilinum* var. *latiusculum* (Desv.) Underw. ex A. Heller.

Serissa serissoides, one of only two species in the genus *Serissa*, is distinguished from *S. japonica*, the other species, by its larger leaves with a nonvariegated margin, narrowly triangular and acuminate, longer calyx lobes (2–4 mm), a white corolla without stripes, nonwinged corolla tubes, larger fruits (4–7 mm), and slightly thinner pyrenes (Fig. 4; see also the key above).

In Korea, *Serissa japonica* has long been cultivated for ornamental purposes in southern regions and as a bonsai plant (T. Lee, 2003; Y. Lee, 2006). *Serissa japonica* was initially described as *Lycium japonicum* Thunb. based on a specimen collected in Japan, because its leaf shape resembled that of *Lycium* (Thunberg, 1780). Later, Thunberg recognized that this species does not belong to *Lycium* in Solanaceae but to *Serissa* in Rubiaceae. Accordingly, he transferred the species to the genus *Serissa*, creating the new combination *Serissa japonica* (Thunb.) Thunb. (Thunberg, 1798).

The genus *Serissa* has significant potential as an ornamental and bonsai resource. The discovery of a new Korean species of *Serissa* significantly advances understanding of native plants and valuable biological resources. In Korea, *S. serissoides* is found only at this site, and its distribution is very limited. Conservation measures are needed to prevent its extinction in Korea.

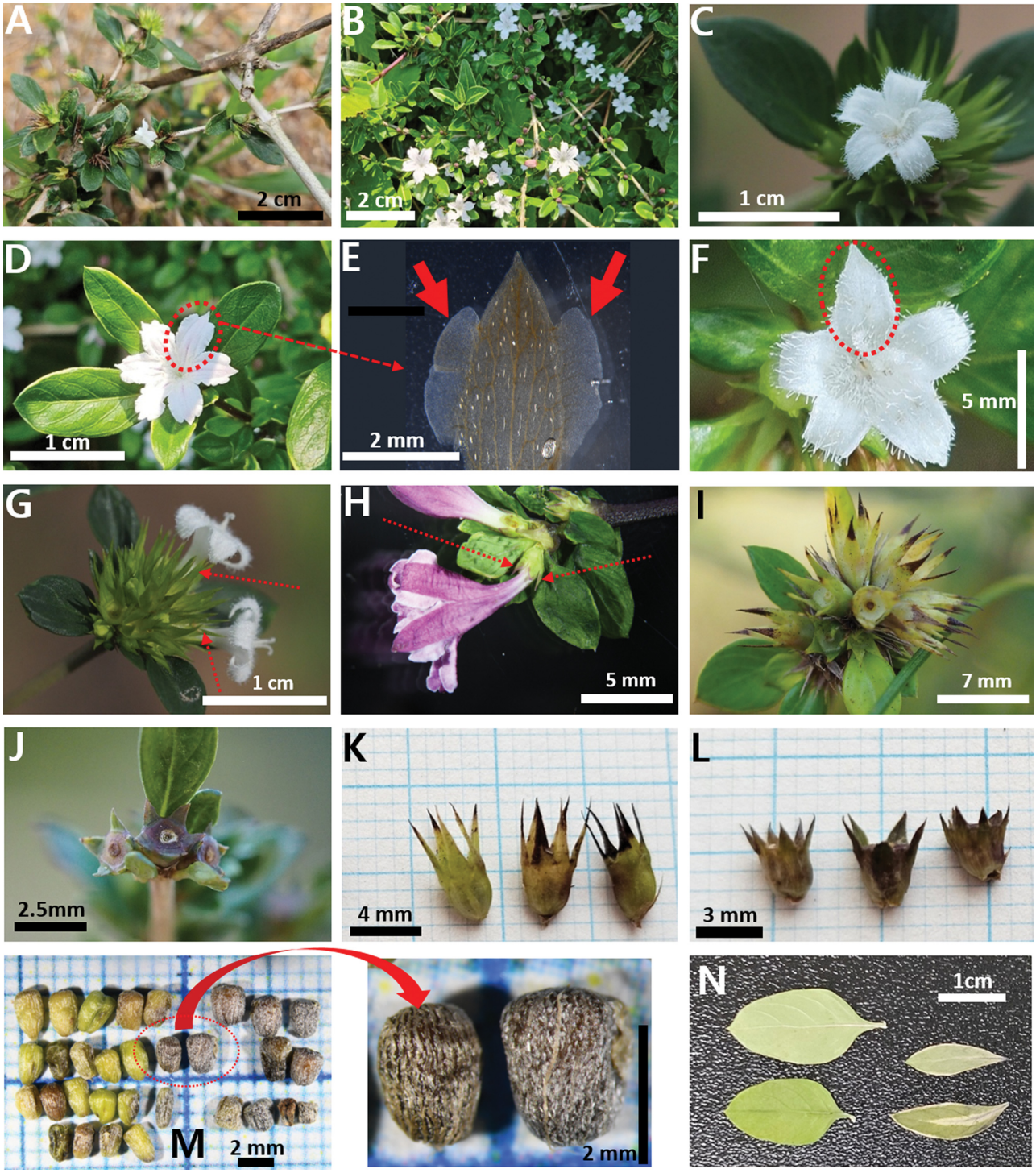

Fig. 4. Photographs of *Serissa serissoides* (DC.) Druce and *S. japonica* (Thunb.) Thunb. in Korea. **A, B.** Habits of *S. serissoides* and *S. japonica*. **C.** Flower of *S. serissoides,* corolla lobes reflexed. **D.** Flower of *S. japonica,* corolla lobe winged within red dotted circle. **E.** Corolla lobe, winged, of *S. japonica* (photo taken with a dissecting microscope), arrows indicate wings of corolla lobe. **F.** Corolla lobe, not winged, of *S. serissoides,* red dotted circle indicates corolla lobe. **G, H.** Calyx lobes of *S. serissoides* and *S. japonica*, dotted arrows indicate calyx lobe. **I, J.** Fruits of *S. serissoides* and *S. japonica* (top view). **K, L.** Fruits of *S. serissoides* and *S. japonica* (side view). **M.** Seeds (Pyrenes) (left, *S. serissoides*; right, *S. japonica*), the right is the magnified image of two pyrenes within the red dotted circle. **N.** Leaves of *S. serissoides* and *S. japonica* (left, *S. serissoides;* right, *S. japonica;* above abaxial, below adaxial surface).

ORCID: Myoung Ja NAM https://orcid.org/0000-0003-0349-8759; Kwi-Kwan JEONG https://orcid.org/0000-0002-3837-6084; Jeong-Nam YU https://orcid.org/0000-0003-2427-6960; Jin Hee PARK https://orcid.org/0000-0002-5976-1467

ACKNOWLEDGMENTS

We thank Mr. Geol Yoo and Mr. Byeonghoon Min for their helpful comments and for the information about the characters of *Serissa* plants, especially the fruit and seed characters. We would like to express our sincere gratitude to Responsible Curator Dr. Martin Callmander and the staff of the Geneva Herbarium (G) for allowing us to use the photograph of the holotype specimen in this paper. We also sincerely thank the editors and the two anonymous reviewers for their careful reading of the manuscript and for providing insightful comments and constructive suggestions. This work was supported by a grant from the Nakdonggang National Institute of Biological Resources (NNIBR) funded by the Ministry of Climate, Energy and Environment (MCEE) of the Republic of Korea (NNIBR20251101).

CONFLICTS OF INTEREST

The authors declare that there are no conflicts of interest.

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