

## A New Variety of *Elsholtzia* (Lamiaceae): *E. splendens* var. *fasciflora* from Korea

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### 신변종 다발꽃향유(꿀풀과)

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**ABSTRACT:** A new variety of *Elsholtzia splendens* (Lamiaceae) was found by the roadside of a mountain base at Jungmun-dong, Seogwipo-si, Jeju-do. The new taxon is termed *Elsholtzia splendens* var. *fasciflora* N.S. Lee, M.S. Chung & C.S. Lee, var. nov. The Korean name 'Da-bal-kkot-hyang-yu' was given. The morphological characters and illustrations of the species based on the holotype are provided together with a photograph of the habitat. It is distinctly distinguished from *Elsholtzia splendens* var. *splendens* by a few characteristics: leaves that area 2–4 cm long, leaves beneath the inflorescence, typically mostly 4; and inflorescence mosyly 2–4, fascicled, involucre oval.

**Keywords:** *Elsholtzia splendens* var. *fasciflora*, a new variety, Lamiaceae

**적 요:** 꿀풀과 꽃향유의 1신변종이 한국 제주도 서귀포시 중문동, 햇별이 드는 산록의 길가에서 발견되었다. 새 분류군을 다발꽃향유(*Elsholtzia splendens* var. *fasciflora* N.S. Lee, M.S. Chung & C.S. Lee, var. nov.)로 명명하였다. 형태적 특징을 기재하고 기준표본에 의한 해부도와 서식지의 식물사진을 제시하였다. 다발꽃향유는 잎의 길이가 2–4 cm, 화서 밑의 잎이 대부분 4장이며, 대개 2–4개의 화서가 다발로 모여나고, 총포의 모양이 난형인 점에서 꽃향유와 뚜렷이 구별된다.

**주요어:** 다발꽃향유, 신변종, 꿀풀과

The genus *Elsholtzia* Wild. of the family Lamiaceae consists of ca. 40 species from Asia, especially China, to Europe, Russia and North America. (Li and Hedge, 1994). The generic plants are valuable for medicinal uses as an ingredient of folk medicines for treating cough, headache and inflammation (Kim et al., 2003). Seven species of *Elsholtzia* has been reported in Korea, including *E. hallasanensis* (Lee, 2000) and *E. springia* (Lee, 2007) that had reported as new species by morphological characters. However, Jeon and Hong (2006) treated *E. hallasanensis* as a synonym of *E. splendens*, which is distributed in the sunny area of Korea and Manchuria. Also, *E. angustifolia* and *E. minima* has been

treated as the synonym of *E. splendens* and *E. ciliata*, respectively (Li and Hedge, 1994). *Elsholtzia splendens* f. *alba* and *E. splendens* f. *rosea* were described by Lee (2000). The two forma have the same characters of *E. splendens* except only the flower color, white or pink. Also, *E. splendens* var. *miyasiroana* Kitag., which was collected in Manchuria, Kumgangsan and Andong, was reported as a variety of *E. splendens* (Kitagawa, 1959). It was distinguished from *E. splendens* var. *splendens* by the only leaf characters: narrow to wide lanceolate leaves, elongate-acuminate leaf apex, and 15 mm leaf width. The taxonomic status has been moved down to a forma, *E. splendens* f. *miyasiroana* (Kitag.) Y. C. Zhu (Zhu, 1989). Therefore, the three intraspecific taxa are

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not so much meaningful at the taxonomic level, although we included them in key of *E. splendens*.

We found populations of *Elsholtzia* that does not belong to any taxon hitherto described. The new taxon grows along sunny roadside or meadow of the foot of mountains in Jungmun-dong, Sanghyo-dong and Hoesu-dong of Seogwipo-si, Jeju-do, Korea. The size of each population is more than 10 individuals, and it grows together with *Cirsium japonicum* var. *ussuriense* DC., *Mosla punctulata* Nakai, *Justicia procumbens* Linne, *Elsholtzia splendens* Nakai ex Maekawa var. *splendens* and *Scilla scilloides* (Lind.) Druce.

This new variety is distinguished from the typical form of *E. splendens* by some characters: leaves 2–4 cm long, first leaves

beneath the inflorescence mostly 4; inflorescence (2)–3–(7), fascicled, involucre oval. The Korean name was given as ‘Da-bal-kkot-hyang-yu’ based on the fascicled inflorescence, which is different from that of *E. splendens* var. *splendens* (Lee N.S. et al. 0909001–0909008; Lee C.S. 1010201–0909002 (EWH)). The voucher specimens are preserved in the Ewha Womans University Herbarium.

## Taxonomic Treatment

*Elsholtzia splendens* var. *fasciflora* N.S. Lee, M.S. Chung & C.S. Lee, var. nov. (Figs. 1, 2, Table 1)

**Holotype:** KOREA. Jeju-do, Seogwipo-si, Jungmun-dong,



Fig. 1. Holotype of *Elsholtzia splendens* var. *fasciflora* (Lamiaceae).

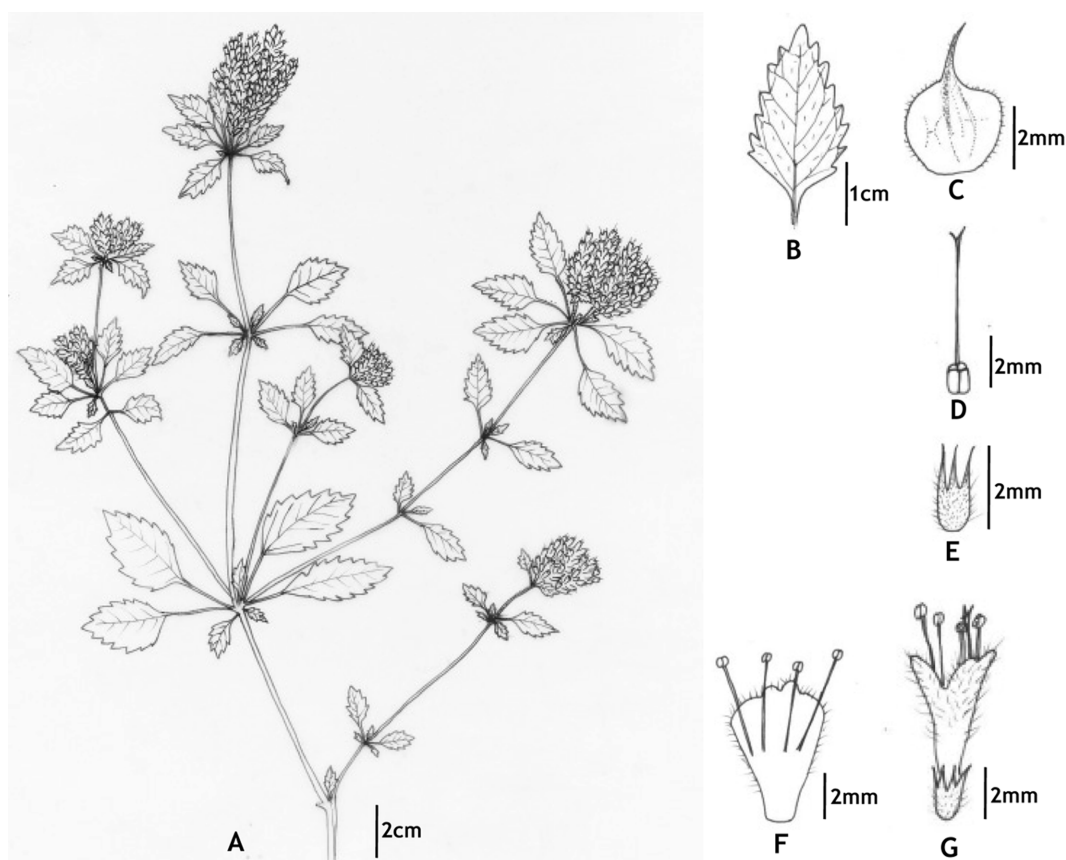
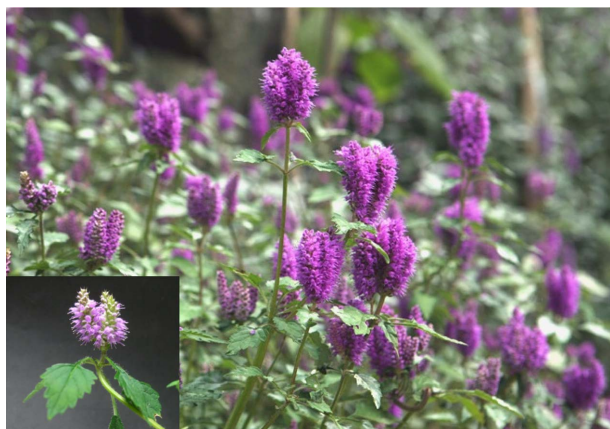


Fig. 2. *Elsholtzia splendens* var. *fasciflora* A. Habit; B. Leaf; C. Involucre; D. Pistil; E. Sepal; F. Corolla and stamen; G. Flower.

Table 1. Comparative morphological characters between *Elsholtzia splendens* var. *fasciflora* and related taxa.

Characters	<i>E. splendens</i> var. <i>splendens</i>	<i>E. splendens</i> var. <i>fasciflora</i>	<i>E. hallasanensis</i>	<i>E. springa</i>	<i>E. angustifolia</i>	<i>E. minima</i>	<i>E. ciliata</i>
Plant height (cm)	30–80	30–55	10–15	3–4	20–50	2–5	30–100
Leaf							
length (cm)	3–6	2–4	2–3	0.6–0.7	2–7	0.2–0.7	3–10
width (cm)	1–6	1.5–2.0	1.0–1.4	0.3–0.4	0.2–0.7	0.2–0.5	0.8–5.0
length/width	1.9	1.5	2.1	2.0	10.0	1.2	2.4
shape	ovate-triangular to oblong-lanceolate	ovate-triangular to oblong-lanceolate	ovate-triangular to oblong-lanceolate	ovate-triangular to oblong-lanceolate	linear	ovate to widely ovate	ovate to elliptic lanceolate
margin	crenate	crenate	crenate	crenate	aculeate	dentate	dentate/crenate
Involucre shape	broadly ovate	ovate	round	round	broadly ovate	ovate	broadly ovate
color	dark green	purplish yellow green	purplish dark green	purplish dark green	green	dark green	green
length/width	0.7–1.0	1.5–1.7	1.0–1.1	1.0	0.8–1.0	1.2–1.3	0.7–0.8
Inflorescence							
number	1	(2)–4–(7)	1	1	1	1	1
width (cm)	0.8–2.2	0.5–1.2	0.6–1.2	0.2	1–1.7	0.4–0.7	1.4–1.0
length/width	5.0	2–3	3.3	3.0	2.8	2.8	8.6
Corolla length (mm)	6–7	5–6	5–6	6	7–8	2–3	4–5
color	rose purple /pink/white	purple	rose purple/white	purple	rose purple	rose purple	purple/white



**Fig. 3.** Photograph of *Elsholtzia splendens* var. *fasciflora* taken on 27 Oct. 2009 in Jungmun-dong, Seogwipo-si, Jeju-do by Mi Sook Chung.

27 October 2009, Chung M.S. & Chung Y.S. 0910101 (EWH)

**Isotypes:** Chung M.S. & Chung Y.S. 0910102, 0910103 (EWH)

**Paratypes:** Chung M.S. & Chung Y.S. 1011101~1011104; Lee N.S. et al. 1010101~1011103; Lee C.S. et al. 1010104~1011109 (EWH)

**Korean name:** Da-bal-kkot-hyang-yu (다발꽃향유)

Hoc taxon simile est *E. splendens* var. *splendens*, sed habet frons 2–4 cm longa, frons mugitus inflorescentia plerumque 4, inflorescentia plerumque 2–4, fascis, et involucre ovatus.

This taxon is similar with *E. splendens* var. *splendens*, but distinguished by the characters of leaves 2–4 cm long, first leaves beneath the inflorescence mostly 4; inflorescence congregated mostly 2–4, involucre oval.

**Herbs** annual. **Stems** erect, 30–50 cm, much branched above base, 4-angled and pilose. **Leaves** opposite, 2–4 cm long, 1.5–2.0 cm wide, adaxially pilose overall, abaxially pilose along veins; petiole 0.5–2.0 cm, gradually shorter upward; leaf blade ovate-triangular to oblong-lanceolate, densely glandular dotted abaxially, base cuneate, apex acuminate, margin crenate. **Inflorescences** spikes, mostly 2–4, terminal or axillary, dense, 2–4 cm long; rachis pubescent; involucre persistent, ovate, purplish yellow green, margin pilose, apex long beaked 1.2–1.5 mm; pedicel less than 1 mm, subglabrous. **Flowers** rose-purple; calyx 2.0–2.5 mm long, white pilose, glandular, teeth triangular, subequal, margin pilose, apex spinescent; corolla 5–6 mm, subfunnel form, upper lip emarginated, middle lobe of lower lip circular, margin entire, lateral lobes truncate or subcircular. **Fruits** nutlets, dark brown, oblong.

**Flowering:** Oct. - Nov.

**Fruiting period:** Nov.-Dec.

**Distribution:** Korea, Jeju-do, Seogwipo-si.

**Habitat:** Sunny roadside at the foot of a mountain.

The new variety appears to be closely related to *E. splendens* var. *splendens*, but differs from it in leaf length, number of inflorescence, leaf number beneath the inflorescence and involucre shape.

*Elsholtzia splendens* var. *fasciflora* is found in Jungmun-dong, Seogwipo-si, Jeju-do of Korea, and is distributed together with *E. splendens* var. *splendens* in this area. *Elsholtzia splendens* var. *fasciflora* and the related intraspecific taxa of *E. splendens* can be distinguished by the following key.

**Key to *Elsholtzia splendens* var. *fasciflora* and related taxa.**

1. Leaves narrow to wide lanceolate, often 15 mm width ..... *E. splendens* f. *miyasiroana*
1. Leaves ovate-triangular to oblong lanceolate, often more than 25 mm width.
  2. Inflorescence 1; first leaves beneath the inflorescence 2, leaves 3–6 mm long; involucre broadly ovate, beaked apex about 1 mm long, dark green, ratio of length/width 0.7–1.0 ..... *E. splendens* var. *splendens*
  3. Flower color white ..... *E. splendens* f. *alba*
  3. Flower color pink ..... *E. splendens* f. *roseola*
2. Inflorescence mostly 2–4; first leaves beneath the inflorescence (2)–4–(6), leaves 2–4 mm long; involucre ovate, beaked apex 1.2–1.5 mm long, purplish yellow green, ratio of length/width 1.5–1.7 ..... *E. splendens* var. *fasciflora*

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