

**An unrecorded species of *Allium* (Alliaceae) in Korea:
A. pseudojaponicum Makino**

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Here we report a previously unrecorded species of Korean *Allium* (Alliaceae) from Geomundo, Yeosu-si, Jeollanam-do. This taxon, *A. pseudojaponicum* Makino which has been known to distribute only in the southern part of Japan up to date, is easily distinguished from *A. thunbergii* G. Don by lustrous evergreen leaves and lateral scapes as well as chromosome number ($2n=32$). The common name, 'Gaet-bu-chu', was newly given considering the property of habitat, which is the dry and rocky grasslands facing to the sea in Korea and Japan. In this study, we redescribe morphological characters, and provide illustrations of habit as well as photographs of habitat.

Keywords: *Allium*, unrecorded species, *A. pseudojaponicum* Makino

The genus *Allium* L. traditionally belongs to the tribe Allieae under the Liliaceae (Bentham & Hooker, 1883; Vvedenskii, 1935; Lawrence, 1951; Xu, 2000), but recent many

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authors generally have placed the genus in its own family Alliaceae (Dahlgren *et al.*, 1985; Takhtajan, 1997; Rahn, 1988). Over 700 taxa of this genus are widely distributed in N Hemisphere, especially in the temperate regions of Eurasia, and also growing in S Hemisphere such as Africa and Central and South America (Hutchinson, 1959; Ohwi, 1984; Rahn, 1988; Takhtajan, 1997; Xu, 2000). Among them, about 21 taxa except cultivated ones have been known from Korea up to date (Choi *et al.*, 2004b). Especially, *A. linearifolium* H.J. Choi et B.U. Oh, *A. koreanum* H.J. Choi et B.U. Oh and *A. thunbergii* var. *teretifolium* H.J. Choi et B.U. Oh were described as endemic taxa (Choi & Oh, 2003; Choi *et al.*, 2004a), and *A. longistylum* Baker was reported as an unknown species (Choi *et al.*, 2003).

In the present study, we report another uncertain taxon of Korean *Allium* collected from Geomundo, Yeosu-si, Jeollanam-do as a previously unrecorded species. This taxon, *A. pseudojaponicum* Makino which has been known to distribute only in the southern part of Japan and also has been misidentified frequently as *A. thunbergii* G. Don. This Makino's species, however, is a biologically distinct species. It is easily distinguished from *A. thunbergii* in having lustrous evergreen leaves and laterally developing scapes morphologically. In addition, the chromosome numbers of *A. pseudojaponicum* collected from Geomundo, Korea and Tsushima, Japan (the type locality) counted to be tetraploid ($2n=4x=32$; Fig. 3-1, 2; Hotta, 1998), in contrast with that of *A. thunbergii* being diploid ($2n=2x=16$; Fig. 3-3).

The new common name, 'Gaet-bu-chu', was given considering the property of habitat, that is the dry and rocky grasslands facing to the sea in Korea and Japan. In this study, we redescribe morphological characters, and provide illustrations of habit (Fig. 1) as well as photographs of the habitat of Geomundo (Fig. 2). All specimens examined in this study are now preserved in the Chungbuk National University Herbarium (CBU) and Korea National Arboretum Herbarium (KH).

DESCRIPTION

Allium pseudojaponicum Makino, Bot. Mag. (Tokyo) 24: 30 (Figs. 1, 2).

Herbs hermaphroditic. **Rhizomes** short, erect, 1.2~5.5mm long. **Bulbs** elliptical solitary to clustered, ovoid without bulblets, 10.0~25.0mm in diam.; tunics membranous, blackish brown. **Leaves** evergreen, 2~6; leaf sheaths exposed over ground, 3.0~18.0cm high,

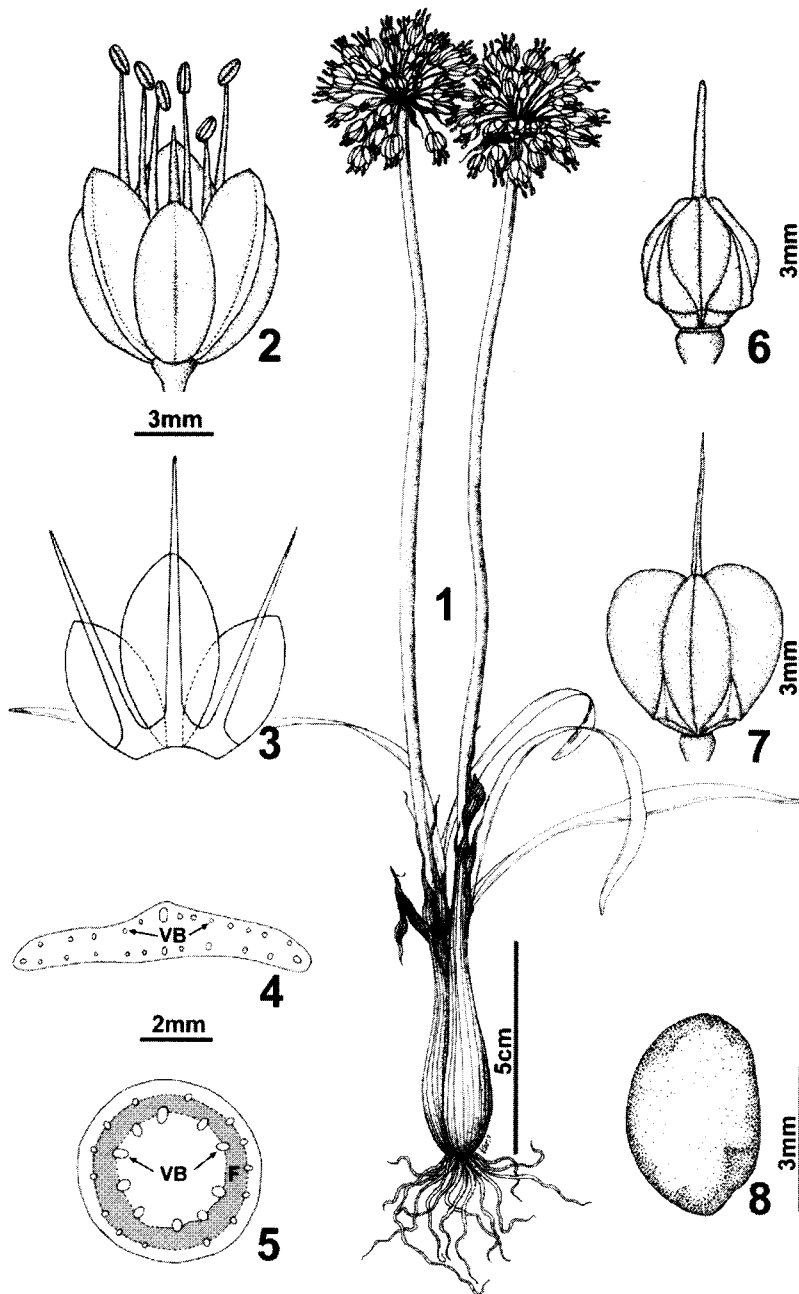


Fig. 1. *Allium pseudojaponicum* (CHJ 50377). 1. Habit 2. Flower 3. Tepal and filament arrangement 4, 5. Cross-section shapes of leaf blade (4) and scape (5) (Upside: Abaxial, VB: Vascular bundles, F: Fiber) 6. Pistil 7. Fruit 8. Seed (Abaxial view).



Fig. 2. Photographs of *Allium pseudojaponicum* in Korea. 1. General habit 2. Enlarged umbellate flowers and a pollinator *Parnara guttata* (Bremer & Grey) 3. Landscape of habitat in Geomundo.

striped; leaf blades lustrous, distorted, linear, nearly flat, 8.0~40.0cm long, 3.0~8.5mm wide, solid in cross-section, sessile and pale green at base, acute to obtuse at apex. **Scapes** lateral from bulbs, erect, terete, solid in cross-section, 17.0~45.0cm long, 1.5~4.0mm wide. **Inflorescences** umbel, subglobose, 15.0~26.0mm high, 25.0~48.0mm wide, without bulblets, 20~75 flowered; pedicels terete, equal in length, 7.0~17.0mm long; bracts 6.5~13.0mm long. **Flowers** bisexual; perianths campanulate, purple to violet, inner tepals longer than outer ones, ovately elliptical to oval, obtuse to rounded at apex, 5.5~6.8mm long, 3.8~4.2mm wide; outer tepals elliptical to oval, obtuse to rounded at apex, 5.0~6.0mm long, 2.1~3.0mm wide;



Fig. 3. Comparison of somatic chromosomes of the two *Allium* species. 1, 2. *A. pseudojaponicum*, $2n=32$ (1: Geomundo, Korea 2: Tsushima, Japan; the type locality). 3. *A. thunbergii*, $2n=16$.

anthers 2.0~2.1mm long; filaments longer than the tepals, 6.0~10.0mm long, entire basally; ovary obovoid, green, with hood-like projections at base, 3.5~4.0mm long, 2.8~3.2mm wide, ovules 2 per locule; style 1, erect, terete, exsert; stigma conical. **Capsules** obcordiform, trigonous, 4.5~5.8mm long, 4.8~6.1mm wide. **Seeds** black, semi-ellipsoid, 3.6~4.5mm long, 2.3~3.0mm wide. **Chromosome number** $2n=32$.

Type: in TI, Photocopy in CBU!

Korean name: Gaet-bu-chu (갯부추: 신칭)

Distribution: Japan and Korea

Korea: Geomundo, Yeosu-si, Jeollanam-do, dry and rocky grasslands facing to the sea.

Specimens examined: **KOREA**, Jeollanam-do, Yeosu-si, Geomundo, 23 Nov. 2002, *Oh et Kim s.n.* (CBU); 24 Sept. 2005, *Oh et al. s.n.* (CBU); 1 Oct. 2005, *Oh et al. s.n.* (CBU); 16 Oct. 2005, *CHJ 50377* (KH), **JAPAN**, Hukuoka Prep., Tsushima city, Ishara-cho, Cheucheujaki beach, 4 Apr. 2004, *Oh and Jang Tsushima-040404-001* (CBU).

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부추속(부추과) 미기록 식물 1종: 갯부추

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전라남도 여수시 거문도에서 발견된 부추속(부추과) 1분류군을 국내 미기록종으로 보고한다. 이 분류군은 지금까지 일본의 남부지방에만 분포하는 것으로 알려졌던 *Allium pseudojaponicum* Makino로서, 근연종인 산부추(*Allium thunbergii* G. Don)에 비해 윤이 나는 상록성의 잎, 화경에 측생하는 인경 및 $2n=32$ 의 염색체수 등의 특징으로 쉽게 구분된다. 국명은 생육지의 특성을 고려하여 '갯부추'로 신청하였다. 이 분류군에 대한 형태적 특징을 기재하였고, 도해 및 생태 사진을 제시하였다.

주요어: 부추속, 미기록종, 갯부추

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