



A new record of *Carex*, *C. taihokuensis* Hayata (Cyperaceae) from Korea

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우리나라 미기록 사초: 진도사초

마사키토모미* · 호시노타쿠지 · 정경숙¹ · 임형탁²

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ABSTRACT: *Carex taihokuensis* Hayata (Cyperaceae) is reported from Jin-do (Isl.), SW Korea, for the first time. It belongs to sect. *Digitatae*, and had been known from Taiwan, China, and Japan. *C. taihokuensis* is characterized by the staminate terminal spike, bracts with sheath, pilose perigynia, and style base not thickened. We propose the new Korean name, 'Jin-do-sa-cho', after its first collecting place. We also provide a key to species in sect. *Digitatae* in Korea and Japan.

Keywords: *Carex*, sect. *Digitatae*, *C. taihokuensis*, new to Korean Flora

적 요: *Carex taihokuensis* Hayata를 전라남도 진도에서 확인하였다. Sect. *Digitatae* 속하는 이 종은 타이완, 중국, 일본에 분포하며, 정소수가 웅성이고 포에 초가 있으며 과포에 털이 있고 암술대 기부가 두터워지지 않는 것이 특징이다. 채집지의 이름을 따서 '진도사초'로 명명하였다. 진도사초의 형태적 특징과 도해 및 생태사진을 제시하였다.

주요어: 사초속, 그늘사초절, 진도사초, 한국 미기록 식물

Cyperaceae consists of ca. 5400 species in 106 genera in the world, and closely related to Juncaceae and Thurniaceae in order Poales (Dai et al., 2010, Simpson, 1995). The genus *Carex* L. is the biggest genus in Cyperaceae, and has ca. 2000 species in the world (Reznicek, 1990), distributed in wide areas, from cold or high-altitude to warm or tropical places (Reznicek, 1990). In Korea, 150-160 species of *Carex* are enumerated (Oh, 2006, 2007).

Carex sect. *Digitatae* is characterized by the staminate terminal spike, bracts with sheath, pilose perigynia, and style base not thickened (Hoshino et al., 2011). The section occurs mainly in Europe, temperate of Asia and temperate zone of North America, and East Asia (Egorova, 1999). In Korea,

seven species, *C. lasiolepis*, *C. macrandrolepis*, *C. quadriflora*, *C. erythrobasis*, *C. humilis* var. *nana*, *C. pediformis*, *C. lanceolata*, had been reported (Oh, 2006, 2007).

In the course of revising Korean *Carex*, we collected one *Carex* species in sect. *Digitatae* at margins of forest in Jin-do (Isl.), SW Korea, in 2013 (Fig. 1). After checking literatures and specimens, we have concluded that this plant is *C. taihokuensis*, reported from Korea for the first time.

Carex taihokuensis Hayata is described from Taihoku, Taiwan (Hayata, 1921), and had been reported from Taiwan, Japan (Okinawa Prefecture), and China (Yunnan Province) (Horiuchi, 2005). Although Liang et al. (2010) treated that *C. taihokuensis* was conspecific to *C. tatsutakensis* Hayata as section Rhomboidales, endemic to Taiwan. Horiuchi (2005) described that *C. taihokuensis* is different from *C. tatsutakensis* by the size of perigynia (*C. taihokuensis*: 6-7 mm long, *C. tatsutakensis*: 5-

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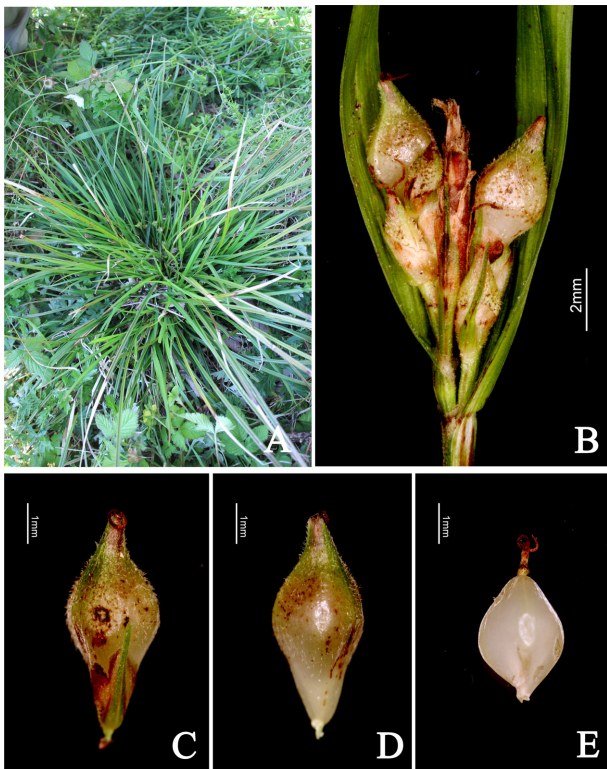


Fig. 1. *Carex taihokuensis* Hayata in Korea. A. Habit; B. Inflorescence; C. Pistillate scale and Perigynium; D. Perigynium; E. Achene.

6 mm), hairiness on perigynia (*C. taihokuensis*: glabrous or rarely with short hairs, *C. tatsutakensis*: always with short hairs), and venation on beaks (*C. taihokuensis*: veins apparent from base to middle, and some veins beyond to middle, *C. tatsutakensis*: veins apparent from base to middle only). *Carex taihokuensis* is the eighth species of sect. *Digitatae* in Korean *Carex*. Here we provide a description of *C. taihokuensis* based on the specimen collected in Korea, and a key to the species in sect. *Digitatae* in east Asia.

Carex taihokuensis Hayata, Icon. Pl. Formos. 10: 70 (1921).

Type: Taiwan, prope Taihoku, U. Fauries. n. (TI-holotypus).

Korean name: Jin-do-sa-cho . Japanese name: Taihoku-suge (Hayata, 1921).

Perennial herbs. Rhizomes short, loosely caespitose without stolon. Culms filiform, 5-30 cm tall, shorter than leaves, sometimes hidden at the base, trigonous. Leaves basal; blades flat, stiff, 3-7 mm wide, scabrous; basal sheaths, dark brown, fibrillose. Spikes 2-4, crowded at apex; terminal spike staminate, linear cylindrical, 7-10 mm long, sessile, with few flowered; lateral spikes pistillate, subsessile, erect, shortly cylindrical, 0.7-1.5 cm long, 4-5 mm wide, 2-7 flowered. Bracts leaf-like, with short sheaths, basal blades much longer than pistillate spikes. Staminate scales narrowly elliptic, 4-5 mm long, apex acute to

shortly aristate, membranaceous, midrib green. Pistillate scales narrowly ovate to elliptic, shorter than perigynia, acute to aristate, pale green, midrib green. Perigynia ascending, ellipsoidal, acutely trigonous, 5-6 mm long, herbaceous, light green, many veined, puberulent, base shortly stipitate, long beaked, beak 1.5-2 mm long, apex bidentate. Achenes tightly enveloped, obovate, acutely trigonous, 2-3 mm long, apex rounded. Stigmas 3.

Distribution: Taiwan, China (Yunnan), Japan (Okinawa), Korea (Jin-do Island).

Specimen examined: Korea. Ssanggyesa, Secheon-ri, Uisinmyeon, Jindo-gun, Jeollanam-do, ca. 100malt, (T. Hoshino, H.-T. Im, K.-S. Chung, T. Masaki & K. Nakahane, 28 Apr. 2013, CNU, KH, OKAY).

Key to species in sect. *Digitatae* in Korea and Japan

1. Plants densely pilose *Carex lasiolepis* 난사초
1. Plants glabrous
 2. Leaves dorsal surfaces densely papillate *C. pediformis* 넓은잎그늘사초
 2. Leaves dorsal surfaces glabrous
 3. Perigynium pilose, bracts setaceous, shorter than spikes
 4. Basal sheaths and scales pale brown ... *C. hashimotoi*
 4. Basal sheaths and scales brown to reddish brown
 5. Basal sheath reddish brown, staminate spikes shorter than pistillate spikes
 6. Pistillate scales apex emarginate *C. quadriflora* 녹빛사초
 6. Pistillate scales apex acute to aristate *C. erythrobasis* 환라사초
 5. Basal sheaths pale brown, staminate spikes same as tall or taller than pistillate spikes
 7. Culms much shorter than leaves or hidden behind leaves *C. humilis* var. *nana* 가는잎그늘사초
 7. Culms longer than leaves
 8. Plants densely caespitose, leaves 1.5-2 mm wide *C. lanceolata* 그늘사초
 8. Plants loosely caespitose, leaves 2-3 mm wide *C. bitchuensis*
3. Perigynium sparsely puberulent, bracts leafly, longer than spikes
 9. Plants with long creeping rhizomes, basal sheath reddish purple to reddish brown *C. macrandrolepis* 청피사초
 9. Plants caespitose without rhizome, basal sheath pale brown to brown *C. taihokuensis* 진도사초

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