



# *Aster danyangensis*, a replacement name for *Aster altaicus* var. *uchiyamae* (Asteraceae)

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**ABSTRACT:** *Aster altaicus* var. *uchiyamae*, a Korean endemic plant, should be treated as a species rank because it is clearly distinguished from *A. altaicus* var. *altaicus* by the morphological characteristics of the plant habit, leaf width, and head size. Nevertheless, when *A. altaicus* var. *uchiyamae* was treated as a species rank, the epithet *uchiyamae* was unavailable in *Aster* owing to the earlier name *A. uchiyamae*, which was a replacement name for the illegitimate name *A. depauperatus*. Therefore, we propose *A. danyangensis* as a new replacement name for *A. altaicus* var. *uchiyamae*. The specific epithet *danyangensis* refers to the geographic location of Danyang-gun, where the species was discovered. We also designate the lectotype and isolectotype of *A. danyangensis*.

**Keywords:** *Aster danyangensis*, *A. altaicus* var. *uchiyamae*, endemic plant, lectotype, isolectotype, replacement name

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## INTRODUCTION

*Aster* L. is one of the largest genera within the family Asteraceae, consisting of about 180 species, and is widely distributed in the temperate regions of the world (Ling et al., 1985; Nesom, 1994; Noyes and Rieseberg, 1999). Owing to the notoriously high propensity toward interspecific hybridization and polyploidy, limitations of species delimitation are often difficult to define (Jones, 1980). However, the species can be readily grouped into subgenera and sections characterized by the features of the habit, leaf, capitulum, receptacle, pappus, and achene (Chung and Kim, 1991a, 1991b, 1993; Ito 1995; Chen et al., 2011; Chung, 2018).

*Aster altaicus* var. *uchiyamae* Kitam., a Korean endemic plant, is found in limited area along the banks of the Namhan River in the Republic of Korea. It was described as a new variety based on a single gathering of *T. Uchiyama* s.n. made in 1902 from “Keisho, Suiapho” (currently Suanbo in Chungcheongbuk-do), one of several voucher specimens reported with the name *A. altaicus* Willd. in Flora Koreana (Nakai, 1911). However, this variety should be treated as a

species rank because it is clearly distinguished from *A. altaicus* var. *altaicus* by the morphological characteristics of the plant habit (perennial for *A. altaicus* var. *altaicus* vs. biennial for *A. altaicus* var. *uchiyamae*), leaf width (ca. 7–15 mm vs. 3 mm), and head size (2.5–3.5 cm vs. 4.0–4.5 cm) (Chung and Kim, 1993; Chung and Jeong, 1999; Chen et al., 2011).

Nevertheless, when *A. altaicus* var. *uchiyamae* was treated as a species rank, the epithet *uchiyamae* was unavailable in *Aster* due to the earlier name *A. uchiyamae* Nakai, which was a replacement name for the illegitimate name *A. depauperatus* H. Lévl. & Vaniot (Nakai, 1941). *Aster uchiyamae* Nakai was accepted as a legitimate name on some botanical websites, such as those of the Global Compositae Database (GCD; <https://www.compositae.org/>), the International Plant Names Index (IPNI; <http://www.ipni.org/>), and the Plant List (TPL; <http://www.theplantlist.org/>). However, *A. depauperatus* was sometimes treated as synonym for *A. meyendorffii* (Regel & Maack) Voss (= *A. ciliosus* Kitam.) (Kitamura, 1937; Chang et al., 2014b). As a result of checking the holotype of *A. depauperatus* (Faurie 1074 (E00413387); an image of the holotype is available at <https://data.rbge.org.uk/search/>

herbarium/?cfg=fulldetails.cfg &specimen\_num=447093), it was identified as *A. hispidus* L. with a white crown pappus of ray florets. In conclusion, *A. uchiyamae* Nakai, a replacement name for *A. depauperatus*, is a different taxon name from that of *A. altaicus* var. *uchiyamae* Kitam. Therefore, we propose the new replacement name of *A. altaicus* var. *uchiyamae* under Articles 6.11 and 58.1 of the International Code of Nomenclature (ICN) (Turland et al., 2018).

## TAXONOMIC TREATMENT

*Aster danyangensis* J. Y. Kim & G. Y. Chung, nom. et stat. nov.

**Replaced synonym:** *Aster altaicus* var. *uchiyamae* Kitam., Mem. Coll. Sci. Kyoto Imp. Univ. Ser. B, 13: 367, 1937.—Type: KOREA. Chungcheongbuk-do: Chungju-si, Suanbo-myeon, Suanbo, “Keisho (慶尙道), Suianpho (水安浦),” 2 Oct 1902, T. Uchiyama s.n. (lectotype, designated here: TI, Fig. 1; isolectotype: TI, Fig. 2)

**Etymology:** The specific epithet *danyangensis* refers to the geographic location of Danyang-gun, where the species was discovered.

**Note:** Regarding the typification of *Aster altaicus* var.

*uchiyamae*, Kitamura mentioned a single collection (*T. Uchiyama s.n.*) in the protologue, which was gathered from Suianpho (水安浦), Keisho (慶尙道), in the Republic of Korea. Later, Chang et al. (2014a) reported the ‘holotype’ at Tokyo University (TI), though the label has been changed from 水安浦 to 水安堡 (error in Chinese characters). Nevertheless, the use of the term ‘holotype’ is not correct in this case and must be corrected to lectotype under Art. 9.9 of the ICN, as Kitamura only referred to a single gathering and not to a single specimen. There are currently two specimens at TI that could belong to the aforementioned type materials (Figs. 1, 2). Those duplicates are to be considered syntypes (Art. 9.5 of the ICN). Therefore, based on the information discussed above, we designated the sheet with a handwritten label of Uchiyama reading “*Aster altaicus* Willd.” as the lectotype of *Aster danyangensis* (Fig. 1). Its type information fits the protologue perfectly, which supports it being original material. The selected sheet bears a complete and well-preserved specimen that displays all of the diagnostic morphological features needed for the identification of the species, such as the plant habit, leaf width, and head size (Chung and Kim, 1993; Chung, 2018). Any other specimen from Uchiyama’s gathering in



Fig. 1. Lectotype of *Aster danyangensis* J. Y. Kim & G. Y. Chung.



Fig. 2. Isolectotype of *Aster danyangensis* J. Y. Kim & G. Y. Chung.

Suanbo must be considered as an isolectotype (Recommendation 9C of the ICN) (Fig. 2).

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## CONFLICTS OF INTEREST

The authors declare that there are no conflicts of interest.

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