



Neotypification of *Aconitum puchonroenicum* (Ranunculaceae) from the Korean Peninsula

JUNGSIM LEE^{1,2}, SEUNG-HWAN OH^{1,3}, DONG CHAN SON^{1,4} & DONG-KAP KIM^{1,5*}

¹Forest Biodiversity Division and Herbarium, Korea National Arboretum, Pocheon 11186, Republic of Korea.

² illggii@korea.kr; <https://orcid.org/0000-0003-2815-6464>

³ oshwan@korea.kr; <https://orcid.org/0000-0003-2190-0967>

⁴ sdclym@korea.kr; <https://orcid.org/0000-0002-6773-0580>

⁵ botany7403@korea.kr; <https://orcid.org/0000-0002-6451-2035>

*Author for correspondence

Aconitum Linnaeus (1753: 532) (Ranunculaceae) consists of about 400 species and is widely distributed in temperate regions of the Northern Hemisphere (Tamura 1993, Brink & Woods 1997, Li & Kadota 2001, Luo *et al.* 2005). This genus has been usually divided into three subgenera: *A. subg. Aconitum*, *A. subg. Lycoctonum* (Candolle 1817: 367) Petermann (1846: 15), and *A. subg. Gymnaconitum* (Stapf 1905: 178) Rapaics (1907: 139) (Bisset 1981, Kadota 1987, Li & Kadota 2001, Lim & Park 2001, Wang *et al.* 2009). Among them, *A. subg. Lycoctonum* is perennial and rhizomatous and consists of about 40 species (Tamura 1995, Hong *et al.* 2017). In the Korean Peninsula, eight species and one variety have been reported in this subgenus (Lim *et al.* 2017, Korea National Arboretum 2017), of which four species, namely *A. pseudolaeve* Nakai (1935: 139), *A. pteropus* Nakai (1937: 400), *A. puchonroenicum* Uyeki & Sakata (1938: 14), and *A. quelpaertense* Nakai (1935: 145), are endemic to the Korean Peninsula.

Aconitum puchonroenicum was described on the basis of two collections from the northern part of the Korean Peninsula, *T. Sakata 1474* made in 1932 from Mt. Geumgang in Gangwon-do and *T. Sakata s.n.* made in 1936 from Hamgyeongnam-do Bujeon Plateau. This species is characterized by having long, spreading pubescent pedicles and spreading pubescent carpels. It was recorded in the *Flora Coreana* (Park 1949, Im 1996) but was misidentified as *A. barbatum* var. *hispidum* (Candolle 1817: 367) Seringe (1824: 58) (= *A. sibiricum* Poiret (1810: 113)) or treated as a synonym of *A. ranunculoides* Turczaninow (1842: 78). *Aconitum puchonroenicum*, however, has recently been confirmed as an independent species by Lim *et al.* (2020). It is currently known to be distributed only in the northern part of the Korean Peninsula. Tamura & Lauener (1979) recognized *A. puchonroenicum* as an independent species and recorded it to occur also in China's Liaoning Province, but they did not cite any Chinese material of this species.

In the protologue, Uyeki & Sakata (1938) did not state the herbarium lodgment of the syntypes of *Aconitum puchonroenicum*. The specimens collected by Uyeki Homiki from the Korean Peninsula during 1912–1930 were mostly kept at the Herbarium of the University of Tokyo (TI), while those collected by him subsequent to that period were kept at the Herbarium of the Suwon Agricultural College (Chang *et al.* 2015b). According to Chang *et al.* (2015a), the Herbarium of the Suwon Agricultural College was destroyed during the Korean War (1950–1953) and no type material of *A. puchonroenicum* exists. Indeed, we have been unable to trace any type material of *A. puchonroenicum* from TI, the Herbarium of the University of Kyoto (KYO), and the National Museum of Natural Science (TNS) in Japan, and any herbaria in Korea.

According to Art. 9. 11 and Art. 9. 13 of the International Code of Nomenclature for algae, fungi and plants (ICN; Turland *et al.* 2018), a neotype may better be selected for a taxon if the holotype is missing and other original material no longer exists. Here, therefore, we designate a specimen at the Herbarium of the Korea National Arboretum (KH), i.e. *J. Lee ljs1408130001*, as the neotype of *Aconitum puchonroenicum* (Fig. 1), due to its completeness and good state of preservation and because it possesses all the diagnostic morphological characters of *A. puchonroenicum*.

Aconitum puchonroenicum Uyeki & Sakata (1938: 14). Fig. 1

Type:—KOREA. Gangwon-do: Jeongseon-gun, Gohan-eup, Mt. Hambaeksan, alt. 1523 m, 13 August 2014, *J. Lee ljs1408130001* (neotype, designated here, KH barcode KHB1584586!). Fig. 1.



FIGURE 1. Neotype sheet of *Aconitum puchonroenicum* (J. Lee ljs1408130001, KH barcode KHB1584586).

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