



Article

Nomenclatural and taxonomic notes on some *Salix* taxa (Salicaceae) from Eastern Asia IAlisa E. Grabovskaya-Borodina^{1*}, Ivan V. Tatanov¹ and Irina V. Belyaeva^{2,3}¹Komarov Botanical Institute, RAS, St Petersburg, Professor Popov str. 2, 197376, Russia²Royal Botanic Gardens, Kew, Richmond, TW9 3AE, UK³Botanical Garden, RAS, 8 Marta str. 202A, Yekaterinburg, 620144, RussiaEmail: agrabovskaya@binran.ru

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Abstract

During the preparation of a catalogue of type specimens for Korean plants deposited at LE, the taxonomic position and synonymy of *Salix blinii* H.Lév., *S. hallaisanensis* H.Lév., *S. hallaisanensis* H.Lév. var. *nervosa* H.Lév. and *S. maximoviczii* Kom. were clarified and the names were typified where necessary.

Keywords: catalogue of type specimens, Korea, *Salix*, Salicaceae, typification**Introduction**

Whilst preparing a new edition of the catalogue of type specimens for Korean plants deposited at LE by A.E. Grabovskaya-Borodina and I.V. Tatanov and working on the World Checklist of Salicaceae *sensu stricto* (Belyaeva and Govaerts, 2020), the authors of the current paper came across four names, *Salix blinii* H.Lév., *S. hallaisanensis* H.Lév., *S. hallaisanensis* H.Lév. var. *nervosa* H.Lév. and *S. maximoviczii* Kom., for which clarification of their typification and taxonomic status was needed. Specimens of all four taxa were found at LE, all of them as part of the original material. Three taxa were described by the French botanist Augustin Abel Hector Lévillé and one by the Russian botanist and explorer Vladimir L. Komarov.

Material and methods

Herbarium specimens were studied at A, E, K, LE and P. Herbarium codes are given according to Thiers (2020). Names of accepted taxa (in bold) and synonymy follow Belyaeva and Govaerts (2020). Abbreviated authors of the names and publications are cited as in the International Plant Names Index (IPNI, 2020). Typification of the names follows the *International Code of Nomenclature of Algae, Fungi, and Plants* (ICN; Turland *et al.*, 2018). Here we accept the terminology discussed by Dyachenko (2017) and use the terms ‘male’ and ‘female’, rather than ‘staminate’ and ‘pistillate’, for flowers, catkins and plants.

Typification of the names described by A.A.H. Lévillé

Augustin Abel Hector Lévillé (1863–1918) was well known as the founder and long-term secretary of the Académie Internationale de Géographie Botanique and as the editor of the periodicals *Le Monde des Plantes* and *Bulletin de Géographie Botanique* (Gentil, 1919; Thiselton-Dyer, 1919). He was an enthusiastic worker describing numerous new taxa based on the plant collections received from the French missionaries E. Bodinier, J. Cavalerie, J. Esquirol, U. Faurie, E.E. Maire, É.J. Taquet (Stafleu and Cowan, 1976–1988). A large number of the specimens that Lévillé used for descriptions of his new taxa are deposited at E. However, some additional specimens that are also part of the original material were distributed to other herbaria such as A, BM, K, P and LE. On many occasions Lévillé loaned specimens to the Royal Botanic Gardens, Kew, and, because of that, some specimens at K are also part of the original material. As mentioned by Stafleu and Cowan (1976–1988), many of these specimens were not annotated by Lévillé but by other botanists (Fedchenko, 1913: 34) and they were even re-identified later by Rehder (1929). Rehder also included in his enumeration identifications made by other botanists. While Rehder was working in the Herbarium at the Royal Botanic Garden, Edinburgh, he was given duplicates of some specimens, which explains why original material for some taxa described by Lévillé was present in the Herbarium of the Arnold Arboretum, where Rehder was employed. A number of specimens collected by Taquet are deposited at P, with duplicates of some sent to LE and other herbaria worldwide (Fedchenko, 1913: 25, 34; Grabovskaya-Borodina, 2013a: 9).

Salix blinii H.Lév., [Repert. Spec. Nov. Regni Veg. 10: 435. 1912.](#)

Type: Korea (Jeju Island), Hallaisan 1200 m, VI.1901, *Taquet 3249*, ♀(A00055789) – lectotype, **designated here**; isolectotype: LE01001946!; syntypes: [A00055787!](#) *Taquet 3248*; E00235911! *Taquet 3248*; [K000335210!](#) *Taquet 3248*).

Protologue citation: “Corea: Quelpaert, in silvis secus torrentes, Hallaisan, 1200 m, jun. 1909 (*Taquet 3248, 3249*)”.

= *Salix taquetii* H.Lév., [Repert. Spec. Nov. Regni Veg. 10 : 436. 1912.](#)

Type: Korea (Jeju Island), Hallaisan 1700 m, VI.1901, *Taquet 3245*, ♀(E00235910) – lectotype, designated by Lauener (1983: 173) as holotype and corrected here to lectotype; isolectotypes: [A00055788!](#); [K000335211!](#)).

Protologue citation: “Corea: Quelpaert, in rupibus torrentium Hallaisan, 1700 m, jun. 1909 (*Taquet, 3245*)”.

Note: There are three specimens under the name *S. blinii* at A (A00055787 *Taquet 3248*; A00055788 *Taquet 3245* and A00055789 *Taquet 3249*), two at K (K000335210 *Taquet 3248*

and K000335211 *Taquet 3245*), two at E (E00235911 *Taquet 3248* and E00235910 *Taquet 3245*) and one specimen at LE (LE01001946 *Taquet 3249*). Three of them, A00055788 *Taquet 3245*, E00235910 *Taquet 3245* and K000335211 *Taquet 3245*, are not part of the original material of *S. blinii* but rather *S. taquetii*, according to the numbers and locations given by L veill  in his protologues for these taxa. However, they belong to the same taxon. The first person who treated *S. taquetii* as a synonym of *S. blinii* was C.K. Schneider ([Schneider, 1916: 161](#)) whose opinion was accepted by other taxonomists ([Rehder, 1929: 117](#); Lauener, 1983: 173; Belyaeva and Govaerts, 2020). All the specimens listed above are represented by fragments with female catkins in fruit.

The specimen E00235910 *Taquet 3245* was cited by Lauener (1983: 173) as the holotype of *S. taquetii*, which should be corrected to lectotype, according to Art. 9.10 of the ICN (Turland *et al.*, 2018), as there are three duplicates deposited in three different institutions under the same number 3245. The latter three are syntypes according to Art. 9.6 of the ICN (Turland *et al.*, 2018), and the lectotype should have been designated by Lauener instead of using the term ‘holotype’. Fortunately, this is correctable and therefore the specimen, E00235910 *Taquet 3245* becomes the lectotype.

Specimens of *Salix blinii*, A00055787 *Taquet 3248*; A00055789 *Taquet 3249*; K000335210 *Taquet 3248*; E00235911 *Taquet 3248* and LE01001946 *Taquet 3249* are syntypes (Art. 9.6 of ICN, Turland *et al.*, 2018). The specimen A00055789 *Taquet 3249* is a fragment with three fruiting catkins, in better condition than the rest of the specimens and, therefore, is designated here as the lectotype.

Salix caprea L., [Sp. Pl. 2: 1020. 1753](#).

Type: Dillenius. ([LINN1158.88](#)! – lectotype, designated by Jonsell & Jarvis (1994: 151).

Protologue citation: “Habitat in Europae siccis”.

= *Salix hallaisanensis* H.L v., [Repert. Spec. Nov. Regni Veg. 10: 435. 1912](#).

Type: Korea (Jeju Island), Hallaisan 1200 m, VI.1909, *Taquet 3258*, ♀([E00301597](#)! – lectotype, designated by Lauener (1983: 176); isolectotype: LE01003148!; syntypes: [E00417179](#)! *Taquet 1442*; LE01003146! *Taquet 1442*; [E00417173](#)! *Taquet 1443*; LE01003153! *Taquet 1443*; [E00417175](#)! *Taquet 3251*; [E00417180](#)!, *Taquet 3252*; [E00417181](#)!, *Taquet 3253*; LE01003145! *Taquet 3253*; [E00417174](#)! *Taquet 3254*; [E00417176](#)! *Taquet 3255*; [E00417172](#)! *Taquet 3256*; LE01003154! *Taquet 3256*; [E00417171](#)! *Taquet 3257*; LE01003147! *Taquet 3257*; [E00417177](#)! *Taquet 3259*; LE01003149! *Taquet 3259*; [E00417178](#)! *Taquet 3260*).

Protologue citation: “Corea: Quelpaert, in sylvis Hallaisan, circa 1200 m, jun. 1909 (Taquet, 1442–1443, 3251–3260)”.

= *Salix hallaisanensis* H.Lév. var. *nervosa* H.Lév., [Repert. Spec. Nov. Regni Veg. 10: 435. 1912.](#)

Type: Korea (Jeju Island), Hallaisan 1500 m, IX.1908, *Taquet 1444*, ♀([E00301598!](#) – lectotype, designated by Lauener (1983: 176) as holotype and corrected here to lectotype; isolectotype: LE01003148!).

Protologue citation: “Corea: In sylvis Hallaisan, 12 aug. 1908 (*Taquet 1444*)”.

Note: The specimen E00301598 *Taquet 1444* was cited by Lauener (1983: 176) as the holotype of *Salix hallaisanensis* var. *nervosa*, which should be corrected to the lectotype according to Art. 9.10 of the ICN (Turland *et al.*, 2018), as there are duplicates of the same number, 1444, deposited in two institutions (E and LE). The latter are syntypes according to Art. 9.6 of the ICN (Turland *et al.*, 2018) and after lectotypification became isolectotypes.

Salix hallaisanensis and *S. hallaisanensis* var. *nervosa* were synonymised with *S. caprea* by Schneider ([1916: 150](#)) and his taxonomic opinion was accepted later by Rehder ([1929: 116](#)) and other taxonomists (Chang *et al.*, 2014: 573; Belyaeva and Govaerts, 2020).

Typification of the name *Salix maximoviczii* published by V.L. Komarov

During 1895–1897 V.L. Komarov, as a representative of the Russian Geographical Society, was travelling in Korea, Manchuria and the Amur Region (Far East) studying the vegetation, collecting plants and describing new species. Most of the herbarium specimens of plants he collected are kept at LE but many were sent to other herbaria worldwide. He described a number of new species of vascular plants after his return from this three-year-long journey ([Komarov, 1901: 419](#)). One of these newly described taxa was *Salix maximoviczii*, which was synonymised later with *S. cardiophylla* Trautv. & C.A.Mey. by Skvortsov (1968: 104; 1999: 109). Skvortsov’s opinion was accepted by other botanists (Ohashi, 2001: 292; Chang *et al.*, 2014: 574; Belyaeva and Govaerts, 2020). The earlier opinions of Kimura (1928) and Nedoluzhko (1995), who placed this taxon in the genus *Toisusu* Kimura, were not supported by the results of molecular genetics research (Azuma *et al.*, 2000; Chen *et al.*, 2010; Barkalov & Kozyrenko, 2014; Lauron-Moreau *et al.*, 2015).

Salix cardiophylla Trautv. & C.A.Mey., Reise Sibir. (Middendorff) 1(2; 3): 77. 1856.

Type: Russia, Far East, Khabarovsk Region, Ujakon 23.VIII–1.IX.1844, [A.Middendorff] 502, ♀[fr.] LE01016561! – lectotype, designated by Buzunova (Buzunova *et al.*, 2011: 121).

= *Salix maximoviczii* Kom., [Trudy Imp. S.-Peterburgsk. Bot. Sada, 18\(3\): 442. 1901.](#)

Type: “Korea Septentrionalis ad ripas fl. Jalu-dsian paulo infra pagum Karami [Trajectus Zatan-ien] 28.VI.1897, V.Komarov s.n.”, ♀(LE01001948! – lectotype, designated by Grabovskaya-Borodina (2004: 159) as holotype and corrected here to the lectotype (Fig. 1); syntypes: [K000335183!](#), [P00761057!](#)).

Protologue citation: “Legi: 28 VI 1897 in vallibus jugi Zatan-ien non procul a valle fluvii Jalu-dsian decursu maxime superiore, secus rivulos. Korea septentr. ad fines Manshuriae”.

Note: Specimens that represent original material are at LE (LE01001948), K (K000335183) and MNHN-P (P00761057). On each of these sheets a fragment with fruiting catkins is mounted. The original labels on the specimens K000335183 and P00761057 have the same text: “Ex herbario Horti Botanici Imper. Petropolitani. Komarov V., Flora Manshuriae No 472. *Salix maximoviczii* Komar. Fluvium Jalu super. Trajectus Zatan-ien. Korea Septentrionalis. 28/VI 1897 (styl. vet.). Legit V. Komarov”. The specimen LE01001948 has an original label that reads: “Ex herbario Horti Botanici Imper. Petropolitani. Komarov V., Flora Manshuriae No... . *Salix maximoviczii* Kom. Korea Septentrionalis ad ripas fl. Jalu-dsian paulo infra pagum Karami 28/VI 1897 (styl. vet.). Legit V. Komarov”. There is an identification label by P. Lackschewitz (“Meo iudicio vix ullis notis a *S. cardiophylla* Trautv. et Mey. differ; cf. etiam O. v. Seemen. Salices japonicae p. 25. O. 16.3/[illegibly] 1911. Determ. P. Lackschewitz”) and another label that states this specimen to be the type (by V.I. Grubov). However, to our knowledge the name *Salix maximoviczii* was not typified, except for a citation of the specimen LE01001948 as a holotype (Grabovskaya-Borodina, 2004: 159; Grabovskaya-Borodina *et al.*, 2013b: 201; Kwak *et al.*, 2013: 85). There are three specimens that belong to the original material, which are syntypes as defined in Art. 9.6 of the ICN (Turland *et al.*, 2018). Although the specimens were collected on the same date, belong to the same taxon and correspond to the protologue, the specimen LE01001948 (Fig.1) is similar to the willow illustrated in *Flora Manshuriae* (Komarov, 1904, [Table 1](#)). Apparently, this specimen was used for that illustration. Moreover, Nasarov (1936: 208) mentioned that the type of *S. maximoviczii* is at LE. Thus, the specimen LE 01001948 is designated here as the lectotype.



Figure 1. Lectotype of *Salix maximoviczii* Kom.

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