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Article

Validation of the names in genus *Berberis* L. (Berberidaceae)

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Abstract

Four infraspecific names of *Berberis*, namely *B. thunbergii* DC. f. *grandiflora* E.L.Wolf ex V.V.Byalt, L.V.Orlova & Potokin, *B. thunbergii* DC. f. *microcarpa* E.L.Wolf ex V.V.Byalt, L.V.Orlova & Potokin, *B. thunbergii* DC. f. *obovata* E.L.Wolf ex V.V.Byalt, L.V.Orlova & Potokin and *Berberis thunbergii* DC. f. *trispinosa* E.L.Wolf ex V.V.Byalt, L.V.Orlova & Potokin are validated here.

Keywords: *Berberis thunbergii*, Berberidaceae, historical collections, nomenclature, infraspecific names, taxonomy, validation

Introduction

In an earlier publication, *Catalogue of the type specimens of E.L. Wolf in the Herbarium of St. Petersburg S.M. Kirov's Forestry Academy (KFTA)* (Byalt *et al*., 2011), four new forms of *Berberis thunbergii* DC. were published based on the herbarium material of E.L.Wolf. While compiling this catalogue of 441 type specimens collected by Wolf that are deposited in KFTA (herbarium code according to Thiers, 2020), an error was introduced due to incorrect citation of the holotypes of these four new taxa. Wolf's specimens were collected by him from the same plant under the same number but at different stages of development (in flowers, fruits and vegetative state), i.e., at different dates and mounted on the same herbarium sheet, although belonging to different gatherings. Citing such specimens as holotype is contrary to Art. 41 of the ICN (Turland *et al*., 2018). There was more than one sheet made from the same gatherings. Here we provide the correct holotype citations for each of the invalidly published taxa. Type citations are given here in English and based on the information on the original labels although these labels were written by Wolf in Russian.

During his long and fruitful life, Wolf published up to 200 articles and monographs (Akimov, 1931), including several on the genera of woody plants that he studied in nature and cultivation.

Since Wolf combined dendrological and taxonomical knowledge, he perfectly understood the value of herbaria and herbarium specimens in botanical research (Byalt *et al*., 2011). Consequently, he created the Dendrological Section in the Herbarium of the Forest Academy in St. Petersburg, which includes about 20,000 herbarium sheets. This valuable collection has survived until now and currently occupies several large cabinets in the Herbarium named in honour of the Russian botanist I.P. Borodin (KFTA). Most of the specimens were collected by Wolf and bear his authentic labels.

Wolf was very influential in botany and forestry, mainly as a plant taxonomist and gardener. He studied in depth the taxonomy of a number of genera of flowering plants, such as barberry (*Berberis* L.), walnut (*Juglans* L.), honeysuckle (*Lonicera* L.), buckthorn (*Rhamnus* L.), willow (*Salix* L.), elderberry (*Sambucus* L.) and others. He described 160 new taxa in various taxonomic ranks and from various families and genera, studying them in nature and in cultivation in the Arboretum of the Forest Academy in St. Petersburg (Byalt *et al*., 2011). Of those, only 73 taxa are currently included in IPNI (2020).

Materials and Methods

The specimens that are discussed in this paper were studied at KFTA. The names of accepted taxa (in bold) and their synonymy follow the World Checklist of Vascular Plants (Govaerts, 2020). Abbreviated authors of the names and publications are cited as in the International Plant Names Index (IPNI, 2020).

Nomenclature and Taxonomy

From the genus *Berberis*, Wolf described two species, *Berberis heterobotrys* E.L.Wolf (= ***B***. ***oblonga*** (Regel) C.K.Schneid.) and ***B***. ***stolonifera*** Koehne & E.L.Wolf , one form of ***B***. ***aggregata*** C.K.Schneid., one variety and five forms of ***B***. ***vulgaris*** L. He also annotated four forms to be described in ***B***. ***thunbergii*** DC. which are validated here.

Berberis thunbergii DC. **f. *grandiflora*** E.L.Wolf ex V.V.Byalt, L.V.Orlova & Potokin, **forma nova.**

(urn:lsid:ipni.org:names: 77210591-1)

Description: *Berberis thunbergii* DC. f. *grandiflora* E.L.Wolf ex V.V.Byalt, L.V.Orlova & Potokin (Byalt *et al*., 2011: 16). Described from a cultivated plant, origin – Japan.

Type: Russia, St. Petersburg, Botanical Garden of St. Petersburg S.M.Kirov's Forestry Academy, in cultivation, *E.L. Wolf 615/706*, fl. (KFTA0004644! – holotype; isotype: KFTA0004646); paratypes: KFTA0005870!, KFTA0005871!, KFTA0005872!

Berberis thunbergii DC. f. ***microcarpa*** E.L.Wolf ex V.V.Byalt, L.V.Orlova & Potokin, **forma nova.**

(urn:lsid:ipni.org:names: 77210592-1)

Description: *Berberis thunbergii* DC. f. *microcarpa* E.L.Wolf ex V.V.Byalt, L.V.Orlova & Potokin (Byalt *et al*., 2011: 16). Described from a cultivated plant, origin – Japan.

Type: Russia, St. Petersburg, Botanical Garden of St. Petersburg S.M. Kirov's Forestry Academy, in cultivation, *E.L. Wolf 1020 bis*., fr. (KFTA0004639! – holotype; isotype KFTA0004640!); paratype: KFTA0005673!

Berberis thunbergii DC. f. ***obovata*** E.L.Wolf, ex V.V.Byalt, L.V.Orlova & Potokin, **forma nova**.

(urn:lsid:ipni.org:names: 77210593-1)

Description: *Berberis thunbergii* DC. f. *obovata* E.L.Wolf ex V.V.Byalt, L.V.Orlova & Potokin (Byalt *et al*., 2011: 17). Described from a cultivated plant, origin – Japan.

Type: Russia, St. Petersburg, Botanical Garden of St. Petersburg S.M.Kirov's Forestry Academy, in cultivation, 29.IX.1914, *E.L. Wolf 461*, fr. (KFTA0004647! – holotype; isotypes: KFTA0004648!, KFTA0004649!); paratypes: KFTA0005876!, KFTA0005877!, KFTA0005878!

Berberis thunbergii DC. f. ***trispinosa*** E.L.Wolf ex V.V.Byalt, L.V.Orlova & Potokin,

(urn:lsid:ipni.org:names: 77210594-1)

Description: *Berberis thunbergii* DC. f. *trispinosa* E.L.Wolf ex V.V.Byalt, L.V.Orlova et Potokin (Byalt *et al*., 2011: 17). Described from a cultivated plant, origin – Japan.

Type: Russia, St. Petersburg, Botanical Garden of St. Petersburg S.M.Kirov's Forestry Academy, in cultivation, *E.L. Wolf 101/1457*, fl. (KFTA0004650! – holotype; isotype: KFTA0004651!); paratypes: KFTA0004652!, KFTA0004653!, KFTA0005884!, KFTA0005886!, KFTA0005887!

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