



A contribution to the Flora of North America: synonymy and lectotypification of *Coptis laciniata* (Ranunculaceae)

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Coptis Salisbury (1807: 305) is a small genus of Ranunculaceae containing 10 (Ford 1997) to 15 (Fu 2001) species. It is distributed in temperate and boreal regions of East Asia and North America (Ford 1997, Fu 2001). In order to generate a comprehensive sampling for a phylogenetic reconstruction of the genus, we have reviewed all described species and their distribution ('A synopsis of *Coptis* (Ranunculaceae)', Li, unpublished). Accidentally, we identified a North American taxon, *C. venosa* Howell (1897: 21), that is not recognized by the latest updated *Flora of North America* (Ford 1997), nor has the name been included in any literature of the genus since its first description in the *Flora of Northwest America* (Howell 1897). Besides *C. venosa*, Howell (1897) recognized another four species from North America in his work: *C. aspleniifolia* Salisbury (1807: 306), *C. laciniata* Gray (1887: 297), *C. occidentalis* Torrey & Gray (1838: 28) and *C. trifolia* (Linnaeus 1753: 558) Salisbury (1807: 305), and commented that *C. venosa* was only collected by himself and has the same distribution range as *C. occidentalis*. No details were given about the morphological differences between *C. venosa* and the other four species. We closely examined protologues, descriptions, type specimens and other specimens of these five species. On the type specimen of *C. venosa* (deposited in Oregon State University Herbarium, OSC) (Fig. 1 A), we observed that the flowers of *C. venosa* are similar to those of *C. aspleniifolia*, *C. laciniata* and *C. occidentalis* in having linear-lanceolate sepals and petals, and nearly basal nectaries. *Coptis venosa*, however, is clearly different from *C. aspleniifolia* and *C. occidentalis* by having a biternate leaf blade that is almost identical to the leaf blade of *C. laciniata*. Based on overall similarity in morphology between *C. venosa* and *C. laciniata*, coupled with their overlapping distribution ranges, we hereby propose to treat *C. venosa* as a synonym of *C. laciniata*. Thus, we now recognize four species of *Coptis* in North America, *C. aspleniifolia*, *C. laciniata*, *C. occidentalis* and *C. trifolia*, and provide a key to identify them (as below).

Furthermore, in the protologue of *C. laciniata* (Gray 1887), specimens collected by *Cusick*, *Hall*, *Henderson*, *Rarran* and *Vasey* were simultaneously listed with no exact type designation – because that was not the practice in the 19th century. After checking all the floras and literatures dealing with *Coptis* in this region (Gray 1887, Howell 1897, Jepson 1909, Frye & Rigg 1914, Piper & Beattie 1915, Hultén 1937, Abrams & Ferris 1944, Dayton 1960, Ford 1997), we are certain that *C. laciniata* has not been lectotypified before. Since only *Cusick*'s collections have both flowers and fruits, we here propose one of these as lectotype of *C. laciniata*, namely OSC-0000897 (Fig. 1 B) in accordance with article 9.2 of the International Code of Nomenclature for Algae, Fungi and Plants (McNeill *et al.* 2012).

Coptis laciniata Gray (1887: 296)

Lectotype (**designated here**):—UNITED STATES. Oregon: Linn County, Cascade Mountains, April 1878, *W.C. Cusick* s.n. (lectotype OSC! [sheet no. OSC0000897], isolectotypes OSC! [sheet no. OSC0000898], K! [sheet no. K000694304], GH [sheet no. GH00096747]).