



## The typification of *Cotoneaster symondsii* (Rosaceae)

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### Abstract

The binomial *Cotoneaster symondsii* was published eight years earlier than *Cotoneaster simonsii*. Some authors have argued that *Cotoneaster simonsii* should be synonymized under *Cotoneaster symondsii*, based on priority. Foliar characters provided in the protologue of *Cotoneaster symondsii* are not a good match for *Cotoneaster simonsii*. In the absence of original material, a neotype is chosen for *Cotoneaster symondsii*, in accordance with its protologue, which places it in synonymy with *Cotoneaster marginatus*.

**Key words:** *Cotoneaster* subgenus *Chaenopetalum*, Himalaya, India, nomenclature

The binomial *Cotoneaster symondsii* Moore (1861: 298) was validly published but the original material that formed the basis of the description remains unfound. We were unable to locate any herbarium specimens collected by or seen by Moore when describing *C. symondsii*. The British Museum received Moore's types and most of his collections that were not ferns (Stafleu & Cowan 1981). We have searched AK, B, BM, CAM, DBN, E, K, KIEV, HILL, OXF, P, WAG, and a number of additional herbaria, but unsuccessfully, and did not find any collections from circa 1860 labeled *Cotoneaster symondsii*.

Moore's (1861) protologue reads: "from Mr. Standish, Bagshot. A very elegant and little known hardy evergreen shrub, of erect habit, furnished with elliptic leaves, larger than, but resembling, those of *buxifolia*. The plants, at this season of the year, are loaded with large orange-scarlet berries, which render them exceedingly ornamental." Bagshot is in Surrey, England. But the origin or seed source of the plant in the Bagshot garden of 1861 is unknown. Moore did not mention *C. symondsii* in subsequent literature. In the absence of any specimens or artwork, we can not be sure what plant Moore had in hand when describing *C. symondsii*. Dozens of species match the limited description, when compared to modern species concepts (Fryer & Hylmö 2009).

Rehder (1949) suggested that *Cotoneaster symondsii* was a synonym of *C. simonsii* Baker (in Saunders 1869: plate 55). Kumar and Panigrahi (1992, 1995) pointed out that if the two names were synonymous, then *C. symondsii* was published earlier and had priority under Articles 11 and 12 of the nomenclatural code (McNeill *et al.* 2012). This argument was repeated by Dickoré and Kasperek (2010), and followed by Brach (2012) in Nepal. However, the majority of writers on the Asian flora have not agreed with this interpretation, and retain *C. simonsii* as the correct name for the plant of the Himalayas in Nepal, Sikkim, and Bhutan (Klotz 1964; Flinck & Hylmö 1966; Hara & Williams 1979; Grierson 1987; Phipps *et al.* 1990; Krügel 1992; Palme *et al.* 1996; Press *et al.* 2000, 2013; Mabberley 2008; Fryer & Hylmö 2009; Flora Himalaya Database 2013). In addition, *C. simonsii* is cultivated in many places around the world, and horticulturists are united in their use of the name *C. simonsii*, not *C. symondsii* (Clarke & Taylor 1976, Krüssmann 1984, Clarke 1988, Huxley *et al.* 1992, Fryer & Hylmö 1995, Brickell 1996, Weber 2003). *Cotoneaster simonsii* escapes from cultivation and has become naturalized on several continents, where most local authors call it *C. simonsii*, not *C. symondsii* (Browicz 1968; Clapham *et al.* 1981; Webb *et al.* 1988; Wisskirchen & Haeupler 1998; Lomer & Douglas 1999; Williams *et al.* 2000; Cooperrider *et al.* 2001; Zika 2005, 2012; Dean *et al.* 2008; Jacobson 2008; Kartesz 2010; Stace 2010; Calflora 2013; Klinkenberg 2013; Oregon Flora Project 2013; USDA, NRCS 2013; Weinmann *et al.* 2013), although there is an Australian database that uses *C. symondsii* (The Council of Heads of Australasian Herbaria 2013). As an example of the

uncertainty in recent literature, Selvaggi *et al.* (2012) use the name *C. simonsii* in their abstract, then in the body of their text call the same plant *C. symondsii*.

We could find no connection between Moore's plant of Bagshot, *Cotoneaster symondsii*, and the Himalayan species *C. simonsii*. Those authors that argued the two names were synonymous did not fully consider Moore's protologue, which described his novelty as an evergreen with elliptic leaves, similar to *C. buxifolius* Wall. ex Lindley (1829: sub plate 1229). Among other differences, *C. simonsii* has deciduous (or semi-evergreen) leaves of a different shape and texture. They are generally ovate to broadly elliptic, sparsely pubescent with flat margins, and are thinner and more flexible than the revolute-margined, leathery, abaxially tomentose, and narrowly elliptic leaves of *C. buxifolius*. Thus any interpretation that the concept of *C. symondsii* includes *C. simonsii* is in conflict with the description of the shape and durability of the leaves in Moore's protologue.

These foliage differences are contradictory and difficult to reconcile with Moore's protologue. Although floral characters were not mentioned by Moore, they reveal additional differences between *Cotoneaster buxifolius* and *C. simonsii*. *Cotoneaster buxifolius* and its close relatives (Fryer & Hylmö 2009) are in *Cotoneaster* subgenus *Chaenopetalum* (Koehne 1893: 226) Klotz (1982: 77), with spreading white petals on rotate flowers. In contrast, *C. simonsii* is a member of subgenus *Cotoneaster*, and they have cupulate corollas that are pink with erect, not spreading petals. In other words, *C. symondsii* as described by Moore is not closely related to *C. simonsii*; they are in opposing subgenera with quite different foliage and flowers.

To clarify the situation, under Article 9.7 of the code (McNeill *et al.* 2012) we propose a neotype for *C. symondsii* that is not in conflict with the protologue. Moore described it as an evergreen species with elliptic leaves and an erect habit. Our neotype selection is a specimen of *C. marginatus* Lindley ex Loudon (1842: 411), an appropriate evergreen species similar to *C. buxifolius*, with narrowly elliptic leaves and erect habit. Where the leaves of *C. buxifolius* are 5–17 mm long, those of *Cotoneaster marginatus* are slightly larger, 7–45 mm long (Fryer & Hylmö 2009). *Cotoneaster buxifolius* is a shrub 0.5–2 m tall, and *C. marginatus* is a shrub 1–5 m tall. *Cotoneaster marginatus* was introduced into cultivation in 1838, and might reasonably have been the species Moore used to describe *C. symondsii* in 1861. None of the essential elements he described in his protologue conflict with the morphology of *C. marginatus*. Our choice of a neotype (Fig. 1) is a flowering specimen that shows the typical floral characters of subgenus *Chaenopetalum*. We note that the color and ornamental value of the fruits of *C. marginatus* are not in conflict with Moore's protologue.

Neotypification of *Cotoneaster symondsii* with a specimen of *C. marginatus* does not result in a change of name for *C. marginatus* or *C. simonsii*. This action will put to rest the ambiguous name *C. symondsii*, converting it to a synonym of *C. marginatus*. Some workers in the genus circumscribe far fewer taxa in subgenus *Chaenopetalum* by combining a number of species within *C. integrifolius* (Roxburgh 1832: 509) Klotz (1963: 779) or *C. buxifolius* (*e.g.*, Lingti & Brach 2003). Although we feel it is unlikely, if subsequent revisions showed *C. marginatus* should be reduced to synonymy under *C. integrifolius* or *C. buxifolius*, our neotypification would not affect their nomenclatural status. Both *C. integrifolius* and *C. buxifolius* have priority over *C. symondsii*.

The authorship for *Cotoneaster symondsii* is sometimes attributed to Standish ex Moore (*e.g.*, The International Plant Names Index 2014, Tropicos 2014). Thomas Moore's protologue, reproduced above, suggests that he was crediting John Standish with growing the specimen, but not introducing the epithet. Therefore we credit Moore, and Moore alone, as the author of the binomial *C. symondsii*, following Kumar and Panigrahi (1992).

## Taxonomy

*Cotoneaster symondsii* Moore (1861: 298).

Neotype (designated here): —INDIA. [Himachal Pradesh:] Simla, elev. 10,000 feet [3048 m], 11 June 1849, *T. Thomson s.n.* ex Herbarium Hookerianum 1867 (K758571!).



**FIGURE 1.** Neotype of *Cotoneaster symondsii* (Thomson s.n. K). Scale bar 10 cm. Image © the Board of Trustees of the Royal Botanic Gardens, Kew. Reproduced with the consent of the Royal Botanic Gardens, Kew.

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