



The typification of *Cotoneaster symondsii* (Rosaceae)

JEANETTE FRYER¹ & PETER F. ZIKA^{2,*}

¹ Cornhill Cottage, Honeycritch Lane, Froxfield, Petersfield, Hampshire, GU32 1BE, England.

² WTU Herbarium, Box 355325, University of Washington, Seattle, WA 98195-5325, USA.

* Author for Correspondence, Email: zikap@comcast.net

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

Acknowledgments

We are grateful to the late Bertil Hylmö, for extensive assistance in European herbaria. Our thanks are extended to the curators of the institutions cited, for their time and effort in helping us search for Moore's missing original material. Kanchi Gandhi at GH provided useful advice on relevant literature. Alison Moore at K kindly prepared the scan of the neotype used for Fig. 1, reproduced here with permission.

References

- Baker, J.G. (1869) Genus *Cotoneaster*, Medik. In: Saunders, W.W. (ed.) *Refugium botanicum; or, figures and descriptions from living specimens, of little known or new plants of botanical interest, volume 1*. John van Voorst, London. text ad tabs. 49–55.
- Brach, A. (2012) *Cotoneaster*. In: Watson, M.F., Akiyama, S., Ikeda, H., Pendry, C.A., Rajbhandari, K.R. & Shrestha, K.K. (eds.) *Rosaceae: Webedition 2, Flora of Nepal*. Royal Botanic Garden, Edinburgh. <http://data.rbge.org.uk/publications/floraofnepal/library/Rosaceae/1>
- Brickell, C. (ed.) (1996) *The Royal Horticultural Society A–Z Encyclopedia of Garden Plants. Volume 1: A–J*. Dorling Kindersley, London, 576 pp.
- Browicz, K. (1968) *Cotoneaster*. In: Tutin, T.G., Heywood, V.H., Burges, N.A., Moore, D.M., Valentine, D.H., Walters, S.M., Webb, D.A., Ball, P.W., Chater, A.O. & Ferguson, I.K. *Flora Europaea, Volume 2, Rosaceae to Umbelliferae*. Cambridge University Press, Cambridge, pp. 72–73.
- Calflora. (2013) Information on wild California plants for conservation, education, and appreciation. Berkeley. Available from: <http://www.calflora.org/> (accessed: 21 Dec 2013).
- Clapham, A.R., Tutin, T.G. & Warburg, E.F. (1981) *Excursion flora of the British Isles*, 3rd ed. Press Syndicate of the University of Cambridge, Cambridge, 499 pp.
- Clarke, D.L. & Taylor, G. (eds.) (1976) *W. J. Bean's Trees and Shrubs Hardy in the British Isles, 8th ed. revised. Volume 1, A–C*. St. Martin's Press, New York, 845 pp.
- Clarke, D.L. (1988) *W. J. Bean's Trees and Shrubs Hardy in the British Isles, Supplement*. John Murray, London, 616 pp.
- Cooperrider, T.S., Cusick, A.W. & Kartesz, J.T. (eds.) (2001) *Seventh Catalog of the Vascular Plants of Ohio*. Ohio State University Press, Columbus, 195 pp.
- Dean, E., Hrusa, F., Leppig, G., Sanders, A. & Ertter, B. (2008) Catalogue of nonnative vascular plants occurring spontaneously in California beyond those addressed in the Jepson Manual—part II. *Madroño* 55: 93–112. [http://dx.doi.org/10.3120/0024-9637\(2008\)55\[93:convpo\]2.0.co;2](http://dx.doi.org/10.3120/0024-9637(2008)55[93:convpo]2.0.co;2)
- Dickoré, W.B. & Kasperek, G. (2010) Species of *Cotoneaster* (Rosaceae, *Maloideae*) indigenous to, naturalising or commonly cultivated in central Europe. *Willdenowia* 40: 13–45. <http://dx.doi.org/10.3372/wi.40.40102>
- Flinck, K.E. & Hylmö, B. (1966) A list of series and species in the genus *Cotoneaster*. *Botaniska Notiser* 119: 445–463.
- Flora Himalaya Database. (2013) Laboratoire d'Ecologie Alpine of the Université de Savoie, Chambéry. Available from: <http://www.leca.univ-savoie.fr/db/florhy/form.php> (accessed: 21 Dec 2013).
- Fryer, J. & Hylmö, B. (1995) *Cotoneaster* Medikus. In: Cullen, J., Alexander, J.C.M., Brady, A., Brickell, C.D., Green, P.S., Heywood, V.H., Jörgensen, P.-M., Jury, S.L., Knees, S.G., Leslie, A.C., Matthews, V.A., Robson, N.K.B., Walters, S.M., Wijnands, D.O. & Yeo, P.F. (eds.) *The European garden flora: A manual for the identification of plants cultivated in Europe, both out-of-doors and under glass, Volume IV, Dicotyledons (Part II)*. Cambridge University Press, Cambridge, pp. 426–437.
- Fryer, J. & Hylmö, B. (2009) *Cotoneasters: A comprehensive guide to shrubs for flowers, fruit, and foliage*. Timber Press, Portland, 344 p.
- Grierson, A.J.C. (1987) *Cotoneaster* L. In: Grierson, A.J.C. & Long, D.G. *Flora of Bhutan, including a record of plants from Sikkim, Volume 1, Part 3*. Royal Botanic Garden, Edinburgh, pp. 588–591.
- Hara, H. & Williams, L.H.J. (1979) *An enumeration of the flowering plants of Nepal, Volume 2*. British Museum (Natural History), London, 220 p.
- Huxley, A., Griffiths, M. & Levy, M. (eds.) (1992) *The New Royal Horticultural Society Dictionary of Gardening. Volume 1, A to C*. The MacMillan Press Limited, London, pp. 740–744.
- Jacobson, A.L. (2008) *Wild Plants of Greater Seattle*, 2nd ed. Publ. by the author, Seattle, 496 p.
- Kartesz, J.T. (2010) Floristic Synthesis of North America. CD-ROM Version 2.0, 2010 update. Biota of North America Program, Chapel Hill, NC.
- Klinkenberg, B. (ed.) (2013) E-flora BC: Electronic atlas of the flora of British Columbia. Lab for Advanced Spatial Analysis, Department of Geography, University of British Columbia, Vancouver. Available from: <http://www.geog.ubc.ca/biodiversity/eflora/index.shtml> (accessed: 21 Dec 2013).
- Klotz, G. (1963) Neue oder kritische *Cotoneaster*-arten II. *Wissenschaftliche Zeitschrift der Martin-Luther-Universität Halle-Wittenberg, Mathematisch-Naturwissenschaftliche Reihe* 12: 769–786.
- Klotz, G. (1964) The *Cotoneaster*s of the *C. nitidus*-Jacques-group. *Bulletin of the Botanical Survey of India* 5: 207–214.
- Klotz, G. (1982) Synopsis der Gattung *Cotoneaster* Medikus. *Wissenschaftliche Zeitschrift der Friedrich Schiller Universität Jena Mathematisch naturwissenschaftliche Reihe* 10: 7–81.
- Koehne, B.A.E. (1893) *Deutsche Dendrologie*. Verlag von Ferdinand Enke, Stuttgart, 601 pp.

- Krügel, T. (1992) Zur zytologischen Struktur der Gattung *Cotoneaster* (Rosaceae, Maloideae) III. *Beiträge zur Phytotaxonomie* 15: 69–86.
- Krüssmann, G. (1984) *Manual of cultivated broad-leaved trees and shrubs, volume I, A–D, English translation*. Timber Press, Portland. 488 pp.
- Kumar, A. & Panigrahi, G. (1992) Nomenclatural notes on *Cotoneaster symondsii* Th. Moore (Rosaceae). *Bulletin of the Botanical Survey of India* 31: 168–170.
- Kumar, A. & Panigrahi, G. (1995) *The family Rosaceae in India: Revisionary studies on Cotoneaster Medik., volume 3*. Bishen Singh Mahendra Pal Singh, Dehra Dun. 292 pp.
- Lindley, J. (1829) *Edwards's Botanical Register* 15: plates 1217–1305.
- Lingti, L. & Brach, A.R. (2003) *Cotoneaster* Medikus. *Flora of China* 9: 85–108.
- Lomer, F. & Douglas, G.W. (1999) Additions to the vascular plant flora of the Queen Charlotte Islands, British Columbia. *Canadian Field-Naturalist* 113: 235–240.
- Loudon, J.C. (1842) *An encyclopaedia of trees and shrubs*. Longman, Brown, Green, and Longmans, London. 1162 pp.
- Mabberley, D.J. (2008) *Mabberley's plant-book: A portable dictionary of plants, their classification and uses*, 3rd ed. Cambridge University Press, Cambridge. 1021 pp.
- McNeill, J., Barrie, F.R., Buck, W.R., Demoulin, V., Greuter, W., Hawksworth, D., Herendeen, P.S., Knapp, S., Marhold, K., Prado, J., Prud-Homme van Reine, W.F., Smith, G.F., Wiersema, J.H. & Turland, N.J. (2012) International code of nomenclature for algae, fungi and plants (Melbourne code). *Regnum Vegetabile* 154: 1–240.
- Moore, T. (1861) Reports of the Floral Committee (continued). *Proceedings of the Royal Horticultural Society of London* 1: 287–298.
- Oregon Flora Project. (2013) Oregon vascular plant checklist. Available from: <http://www.oregonflora.org/checklist.php#> (accessed: 21 Dec 2013).
- Palme, E., Bilia, A.R. & I. Morelli. (1996) Flavonols and isoflavones from *Cotoneaster simonsii*. *Phytochemistry* 42: 903–905. [http://dx.doi.org/10.1016/0031-9422\(95\)00023-2](http://dx.doi.org/10.1016/0031-9422(95)00023-2)
- Phipps, J.B., Robertson, K.R., Smith, P.G. & Rohrer, J.R. (1990) A checklist of the subfamily Maloideae (Rosaceae). *Canadian Journal of Botany* 68: 2209–2269. <http://dx.doi.org/10.1139/b90-288>
- Press, J.R., Shrestha, K.K. & Sutton, D.A. (2000) *Annotated checklist of the flowering plants of Nepal*. The Natural History Museum, London. 430 pp.
- Press, J.R., Shrestha, K.K. & Sutton, D.A. (2013) Annotated checklist of the flowering plants of Nepal, revised. Available from: http://www.efloras.org/flora_page.aspx?flora_id=110 (accessed: 21 Dec 2013).
- Rehder, A. (1949) *Bibliography of cultivated trees and shrubs hardy in the cooler temperate regions of the northern hemisphere*. The Arnold Arboretum, Harvard University, Jamaica Plain. 825 pp. <http://dx.doi.org/10.5962/bhl.title.60035>
- Roxburgh, W. (1832) *Flora indica; or, descriptions of Indian plants, ed. 1832, volume 2*. W. Thacker & Co., Calcutta. 691 pp.
- Stace, C. (2010) *New Flora of the British Isles*, 3rd ed. Cambridge University Press, Cambridge. 1232 pp.
- Staffleu, F.A. & Cowan, R.S. (1981) *Taxonomic literature: A selective guide to botanical publications and collections with dates, commentaries and types, volume III: Lh–O*, 2nd ed. Bohn, Scheltema & Holkema, Utrecht. 980 pp.
- Selvaggi A., Soldano A., & Pascale M. (eds.) (2012) Note floristiche piemontesi n. 393–459. *Rivista Piemontese di Storia Naturale* 33: 419–455.
- The Council of Heads of Australasian Herbaria. (2013) Australia's virtual herbarium. Available from: <http://avh.chah.org.au> (accessed: 21 Dec 2013).
- The International Plant Names Index. (2014) The Royal Botanic Gardens, Kew, the Harvard University Herbaria, and the Australian National Herbarium. Available from: <http://www.ipni.org/index.html> (accessed: 9 Mar 2014).
- Tropicos. (2014) Tropicos.org. Missouri Botanical Garden, St. Louis. Available from: <http://www.tropicos.org/Name/100387750> (accessed: 9 Mar 2014).
- USDA, NRCS. (2013) The plants database. United States Department of Agriculture, Natural Resources Conservation Service, Plant Data Team, Greensboro, NC. Available from: <http://plants.usda.gov/java/> (accessed: 21 Dec 2013).
- Webb, C.J., Sykes, W.R. & Garnock-Jones, P.J. (1988) *Flora of New Zealand, volume IV, naturalised Pteridophytes, Gymnosperms, Dicotyledons*. Botany Division, Department of Scientific and Industrial Research, Christchurch. 1365 pp.
- Weber, E. (2003) *Invasive plant species of the world: A reference guide to environmental weeds*. CABI Publishing, Wallingford, Oxon. 548 pp.
- Weinmann, F., Zika, P.F., Giblin, D.E. & Legler, B. (2013) Checklist of the vascular plants of Washington State. University of Washington Herbarium, Seattle. Available from: <http://biology.burke.washington.edu/herbarium/waflora/checklist.php> (accessed: 21 Dec 2013).
- Williams, P.A., Karl, B.J., Bannister, P. & Lee, W.G. (2000) Small mammals as potential seed dispersers in New Zealand. *Austral Ecology* 25: 523–532. <http://dx.doi.org/10.1046/j.1442-9993.2000.01078.x>
- Wisskirchen, R. & Haeupler, H. (eds.) (1998) *Standardliste der Farn- und Blütenpflanzen Deutschlands (mit Chromosomenatlas von Focke Albers)*. Verlag Eugen Ulmer, Stuttgart. 766 pp.
- Zika, P. F. (2005) Noteworthy collection from California. *Madroño* 52: 208.
- Zika, P.F. (2012) *Cotoneaster*. In: Baldwin, B.G., Goldman, D.H., Keil, D.J., Patterson, R., Rosatti, T.J. & Wilkin, D.H. (eds.), *The Jepson manual: Vascular plants of California*, 2nd ed. University of California Press, Berkeley, pp. 1174, 1177.