‘UCONNPP002’ (Jade Parade®) Sandcherry

Bryan A. Connolly and Mark H. Brand

Department of Plant Science and Landscape Architecture, University of Connecticut, 1376 Storrs Road, Storrs, CT 06269-4067

Additional index words. native shrub, landscape adaptability, Rosaceae, low-maintenance plant, groundcover, pollinator plant

Prunus pumila (L.), sandcherry, is a native North American small shrub found from New Brunswick and Manitoba south to Wyoming, Colorado, Wisconsin, New Jersey, and the mountains of North Carolina. The species is valued for its ability to tolerate challenging landscaping situations. It is a drought-, heat-, and salt-tolerant plant that grows in dry, sandy, infertile soils, and is tolerant to deer browse (Shrestha and Lubell, 2015). This group of plants has been classified as either four separate species, two species (one with one variety and a second with three varieties), or one highly variable species with four varieties (Catling et al., 1999; Fernald, 1950; Flora of North America Editorial Committee, 1993+; Gleason and Cronquist, 1991). Here we follow the Flora of North America Editorial Committee (1993+) and consider *Prunus pumila* a single species with the four varieties *depressa* (Pursh) Bean eastern sandcherry, *susquehanae* (Willdenow) H. Jaeger Susquehanna or Appalachian sandcherry, *pumila* Great Lakes sandcherry, and *besseyi* (L.H. Bailey) Wagh western or Bessey’s sandcherry.

The variety *depressa* has stems prostrate and mat-forming, with leaves narrowly oblanceolate and pale beneath, and fruit 1 cm in diameter. It is found on open, rocky to gravelly soils or sandy shores of streams and lakes, especially in calcareous regions of Massachusetts, northern New York, New Jersey, and eastern Pennsylvania, as well as eastern Quebec, Ontario, and New Brunswick, Canada. The variety *susquehanae* (syn. var. *cuneata*) has densely puberulent twigs; erect, ascending stems; fruit 1 cm in diameter; and leaves oblong to obovate with acute bases. It is found on acidic dry, sandy, or rocky sites in woodlands, fields, and lakeshores from Maine to Minnesota and southward through

Indiana, Ohio, and many parts of the mid-East Coast states to North Carolina, as well as Quebec to Manitoba, Canada. The variety *pumila* has erect and diffusely branched, glabrous stems and fruit 1 cm in diameter. Leaves are narrowly oblanceolate, sometimes obovate with narrow cuneate bases, and with lustrous upper surfaces and pale undersides. It grows in sandy, gravelly, or rocky beaches and dunes, especially along the Great Lakes and Ontario, Canada, and farther inland. The variety *besseyi* has ascending to decumbent branches with ascending tips; is mat-forming; and has oblanceolate, elliptic, to obovate leaves that are glaucous beneath and can be coriaceous, with fruit 1.5 cm in diameter. This is primarily a western form that ranges from Ohio westward to Minnesota, Montana, and Oregon, down to Kansas, as well as Ontario, Manitoba, and Saskatchewan, Canada (Bragg, 2002; Catling et al., 1999; Cullina, 2002; Fernald, 1950; Flora of North America, 1993+; Gleason and Cronquist, 1991).

Prunus pumila ‘UCONNPP002’ Jade Parade® is a low and wide, rapidly growing, semiprostrate groundcover with branches that spread outward horizontally and then arch upward. This cultivar is vigorous, with a full, dense, rounded outline. It is intermediate in growth form between its parents: *Prunus pumila* var. *depressa* and *P. p.* var. *susquehanae*. ‘UCONNPP002’ is a taller, faster growing plant with larger flowers than *Prunus pumila* var. *besseyi* ‘P011S’ Pawnee Buttes®, the most similar *Prunus pumila* cultivar currently available in the nursery trade. ‘UCONNPP002’ sandcherry is a profuse bloomer with showy, white flowers in spring; dark olive-green summer foliage; and red-orange fall foliage color. It is easy to propagate by stem cuttings and easy to grow in the commercial nursery. It is adaptable to dry, sandy, rocky soils and is tolerant to drought and road salt in the landscape. It grows well on both acidic and alkaline soils as long as they are well-drained.

Origin

‘UCONNPP002’ originated from cross-pollinations conducted during Spring 2010 at the University of Connecticut Plant Science Research and Education Facility in Storrs, CT. The new cultivar is a hybrid of *Prunus pumila* var. *depressa* (eastern sandcherry) ‘Gus Melquist’ as the female parent and

Prunus pumila var. *susquehanae* (Susquehanna sandcherry) as the male or pollen parent. The female parent cultivar was obtained from the trade, whereas the male parent originated from a wild population found growing on a sandy and rocky utility right-of-way in Ayer, MA (42.5706, –71.5730). Three fruits were produced from the cross that ripened to dark purple-black by July 2010. The seeds were hand-cleaned from the fruit, placed in damp sand, and cold-stratified at ≈5°C for 90 d. Two of the three seeds germinated after they were sown into a 1:1:1 (v:v:v) peatmoss:perlite:vermiculite medium in the University of Connecticut Floriculture Greenhouses. Both seedlings were evaluated in containers in an outdoor nursery and were overwintered in a poly-covered hoop house. The better of the two seedlings was identified during the 2012 growing season. ‘UCONNPP002’ was superior to its sibling in growth form, plant vigor, and both summer and fall foliage characteristics.

Description

‘UCONNPP002’ sandcherry is a new cultivar of the North American woody native species *Prunus pumila*. This cultivar is a semiprostrate groundcover plant reaching 60 cm tall and having a spread of 120 cm (Fig. 1). Branches are produced distinctly in layers, and extend outward and then upward at the tips. Flowers are numerous and occur all along the length of the previous season’s annual growth in umbel-like clusters—typically, about 65 flowers/15-cm length of stem (Fig. 2). The flowers are quite fragrant, with a sweet, perfumed scent, and are open for 10 to 14 d in late April to early May in Connecticut. Each individual flower in the inflorescence is about 2 cm in diameter, with five petals in a single whorl that are about 8 to 9 mm long and 4 to 6 mm wide. Inflorescences are about 3 cm in diameter. All colors in the description were designated using the Royal Horticultural Society (RHS) Color Charts (Royal Horticultural Society and Flower Council of Holland, 1995). Petals, when fully open, are white (RHS 155D) on both upper and lower surfaces. The floral display is followed by attractive summer foliage, with upper surfaces that are dark olive-green (close to RHS 137A, 139A, and 147A) and with gray-green lower surfaces (close to RHS 191A) (Fig. 3). Leaves are elliptical, with broadly acute bases and apices, 3 cm wide by 7.5 cm long, with serrulate margins, and are subtended by small stipules. Autumn foliage color is a vivid red-orange (RHS 43B, 44B, and 44C) on the adaxial surface (Fig. 4). Fruit of ‘UCONNPP002’ is rounded, 0.75 to 1.0 cm in diameter, and ripens to dark burgundy and black (RHS 59B, 79A, 187A, and 202A). Bark on older stems is dark grayish brown (RHS 166A).

Landscape Use and Culture

Like most other sandcherries, it is expected that ‘UCONNPP002’ will be able to grow in zones 3 through 7. The new cultivar has

Received for publication 8 Feb. 2021. Accepted for publication 16 Mar. 2021.

Published online 29 April 2021.

Current address for B.A.C.: Department of Biology, Eastern Connecticut State University, 83 Windham Street, Willimantic, CT 06226

B.A.C. is an Assistant Professor.

M.H.B. is a Professor.

M.H.B. is the corresponding author. E-mail: mark.brand@uconn.edu.

This is an open access article distributed under the CC BY-NC-ND license (<https://creativecommons.org/licenses/by-nc-nd/4.0/>).

Fig. 1. Six-year-old 'UCONNPP002' sandcherry plants in the field with summer foliage. Plants are displaying their mature form with characteristic spreading branches, upturned shoot tips, and layered branching habit.

Fig. 2. 'UCONNPP002' sandcherry flowering. (A) A 3-year-old container-grown plant in bloom in early May and (B) a densely flowered branch showing the abundant white, five-petaled flowers.

Fig. 3. Shoots of 'UCONNPP002' sandcherry showing dark, olive-green upper surfaces and gray-green lower surfaces.

Fig. 4. Brightly colored, red-orange fall foliage of 'UCONNPP002' sandcherry.

performed well in U.S. Department of Agriculture hardiness zone 6a when evaluated at the University of Connecticut, Storrs, CT. In addition, Bailey Nursery in St. Paul, MN, confirmed 'UCONNPP002' survival at -34°C without cold injury. 'UCONNPP002' sandcherry grows best in full sun but can tolerate some light shade. Once established, plants are tolerant of drought, salt, and a range of soils.

One obvious application for 'UCONNPP002' is as a substitute for *Rhus aromatica* 'Gro-Low'. 'Gro-Low' has been valued as a highly adaptable native groundcover, but *Fusarium* wilt (*Fusarium oxysporum*) and eriophyid mites have become widespread problems with this plant (Creswell, 2019; O'Mara and Tisserat, 1997). Our new sandcherry cultivar has a similar growth form, level of vigor, and fall foliage color as 'Gro-Low', without the disease liability. This new cultivar will be useful as a rapidly colonizing groundcover for slopes, parking lot islands, and similar challenging locations. It will also work well as an attractive facer plant and for massing in the landscape. 'UCONNPP002' sandcherry's landscape appeal comes from its unique horizontal branches that turn up at the tip and its multiseason interest, which includes abundant fragrant flowers in spring, lustrous green summer leaves, and vibrant red-orange fall foliage.

In addition to their ornamental appeal, native sandcherries provide several ecological services. The fruit is eaten by native birds, and the foliage of North American *Prunus* spp. support at least 96 species of native moths and butterflies (Tallamy, 2007). Native pollinators have been observed visiting the abundant fragrant flowers of 'UCONNPP002' in large numbers in Connecticut and Montana. 'UCONNPP002' will be useful for those landscapers seeking small, attractive, rugged, and low-maintenance plants that attract and support wildlife.

Clonal Propagation

'UCONNPP002' is easily propagated by softwood cuttings collected from mid-June to mid-July. Rooting percentages of greater than 90% with well-branched root systems can be expected. Peatmoss:perlite (50:50%, v:v) or similar propagation media work well. Cuttings can be double-wounded and treated with 3000 ppm indole-3-butyric acid. After rooting, cuttings can be potted and fertilized to produce new growth. Rooted cuttings overwinter well without losses.

Micropropagation can also be used to propagate 'UCONNPP002' clonally. Shoot multiplication in vitro can be achieved using Murashige and Skoog medium and vitamins (Murashige and Skoog, 1962), 0.5 mg-L⁻¹ benzyladenine, 3% sucrose, and 0.8% agar with a pH of 5.7. Cultures should be maintained at $\approx 25^{\circ}\text{C}$, with a 16-h photoperiod of 40 $\mu\text{mol}\cdot\text{m}^{-2}\cdot\text{s}^{-1}$ provided by cool-white fluorescent lights with a subculture cycle of

between 28 to 35 d. An 8 $\times$ shoot multiplication rate can be expected. Microshoots are easily rooted (100% rooting) under nonsterile conditions in clear, plastic salad trays containing a 1:1 (v:v) peatmoss:vermiculite mix under the fluorescent lighting. Microcuttings root in 3 weeks and can then be acclimated to drier air over a period of 10 to 14 d before being moved to a greenhouse. Greenhouse acclimation is aided by the use of clear, plastic, humidity dome covers and 50% shade cloth.

Availability

A U.S. plant patent application has been submitted and accepted by the U.S. Office of Patents and Trademarks for *Prunus pumila* 'UCONNPP002'. Plant patent rights will be assigned to the University of Connecticut. Under a licensing agreement with the University of Connecticut, this cultivar will be available from Bailey Nursery, St. Paul, MN, and marketed under the First Edition[®] brand with the trade name of Jade Parade[®].

Literature Cited

- Bragg, D.C. 2002. *Prunus pumila* L. In: J.K. Francis (ed.). Wildland shrubs of the United States and its territories: Thamnisc descriptions general technical report IITF-WB-1. 20 Jan. 2021. <https://www.srs.fs.usda.gov/pubs/ja/ja_bragg009.pdf>.
- Catling, P.M., S.M. McKay-Kuja, and G. Mitrow. 1999. Rank and typification in North American dwarf cherries, and a key to the taxa. *Taxon* 48:483–488.
- Creswell, T. 2019. Fragrant sumac succumbs to *Fusarium* wilt. 4 Mar. 2021. <<https://www.purduelandscape.org/wp-content/uploads/2019/07/Fragrant-Sumac-Succumbs-to-Fusarium-Wilt.pdf>>.
- Cullina, W. 2002. Native trees, shrubs, and vines: A guide to using, growing and propagating North American woody plants. Houghton Mifflin Harcourt, Boston, MA.
- Fernald, M.L. 1950. Gray's manual of botany. 8th ed. American Book Company, New York, NY.
- Flora of North America Editorial Committee (ed.). 1993+. Flora of North America north of Mexico. 21+ vols. 20 Jan. 2021. <<http://beta.floranorthamerica.org>>.
- Gleason, H.A. and A. Cronquist. 1991. Manual of vascular plants of northeastern United States and adjacent Canada. The New York Botanical Garden, Bronx, NY.
- Murashige, T. and F. Skoog. 1962. A revised medium for rapid growth and bioassays with tobacco tissue culture. *Physiol. Plant.* 15:473–497.
- O'Mara, J.O. and N. Tisserat. 1997. A vascular wilt of fragrant sumac caused by *Fusarium oxysporum*. *Plant Dis.* 81(11):1333, doi: 10.1094/PDIS.1997.81.11.1333C.
- Royal Horticultural Society and Flower Council of Holland. 1995. RHS colour chart. Royal Horticultural Society, London, UK.
- Shrestha, P. and J.D. Lubell. 2015. Suitability of eight northeastern U.S. native shrubs as replacements for invasive plants in a difficult landscape site with white-tailed deer pressure. *HortTechnology* 25:171–176.
- Tallamy, D.W. 2007. Bringing nature home: How native plants sustain wildlife in our gardens. Timber Press, Portland, OR.