

CHECKLIST OF CULTIVARS OF CALLERY PEAR (*Pyrus calleryana*)

by Frank S. Santamour, Jr. and Alice Jacot McArdle

Since the introduction of the cultivar 'Bradford' in 1963 (14), Callery pear (*Pyrus calleryana* Decaisne) has become a popular tree for urban landscape planting in the United States. Apparently the American experience has been different than that in England, since Bean (1) stated "... apart from colouring well in the autumn of some years, it really has nothing to recommend it as an ornamental."

The species was described in 1872 from specimens collected in China by the French missionary J. Callery (1), and first introduced into cultivation by E.H. Wilson in 1908 from Hupeh (Hubei) province. Its native range embraces 11 provinces of eastern China, south of the 37th parallel, between 80 and 1800 meters elevation. The trees occur in mixed forest in this generally mild area on slopes and in swamps (3). This information hardly gives a clue to the potential urban adaptability of the species. Photographs taken by Frank N. Meyer and published in 1963 (15) show the extremes of drought and moisture tolerance in the gene pool of Callery pear. It has become naturalized on a wide range of sites around the U.S. Plant Introduction Station in Glenn Dale, Maryland.

The history of cultivation of Callery pear is intimately tied to the activities of two men; Frank N. Meyer, plant explorer for the U.S. Department of Agriculture and F.C. Reimer, horticultural scientist at Oregon State University. Their interests in Callery pear were associated with its potential for breeding or understock use in commercial pear production, largely because of its possible resistance to the bacterial fire-blight disease. It is unlikely that either of these gentlemen foresaw the tremendous future for the species as a landscape tree.

In Meyer's notes concerning collection PI 45586 (16, p. 63), 20 pounds of seed collected near Kingmen, Hupeh (Hubei) Province from September 1 to 8, 1917, he stated, concerning

fire-blight, that resistance would have to be confirmed by actual experiment and "... that all seedlings should be inoculated, to weed out possible nonimmune types." In his notes on PI 45592 (16, p.65), 100 pounds of seed collected in the same locality in October, 1917, he acknowledged that the species had been found "... to be highly resistant but not totally immune to fire-blight in the inoculation experiments of Prof. F.C. Reimer, at Talent, Oreg." Reimer joined Meyer for a brief period during the collection of PI 45592, and the seeds were shared between them. It may be that the cultivar 'Autumn Blaze,' recently introduced from Oregon (13), came from this seedlot. It would have been poetic justice if the USDA introduction 'Bradford' had originated from Meyer's share of the seed. Alas, this was not to be. The 'Bradford' cultivar had its origin in seed of PI 47261 (17, p. 45) that was purchased in Nanking (Nanjing) in 1919 (15).

It is problematical whether *P. calleryana* is native to Korea. Camillo Schneider (11) described *P. fauriei* from Korea in 1906, based on specimens collected by the French priest Urban Faurie. Nakai, in 1916 (5) also recognized this species but Rehder, in 1920 (6), reduced it to a variety of *P. calleryana*. A recent Korean work (4) has even gone so far as to suggest that Korean pear is simply *P. calleryana*. However, the work of Westwood (12) should, we believe, establish *P. fauriei* as a species distinct from, but related to, Callery pear.

The U.S. National Arboretum became the International Registration Authority for unassigned genera on January 1, 1981. Since that time we have endeavored to prepare authoritative checklists of cultivars of the more important genera and species used in landscape plantings in the United States (7, 8, 9, 10). This has been done in accordance with the rules and guidelines proposed by the International Code of Nomenclature for Cultivated Plants (2).

Although the present list of Callery pear cultivars is not as extensive as for many other species of landscape trees, we believe that this is a proper time to establish and codify the correct nomenclature of this important landscape species. With the wide range of tree forms currently in the nursery trade, it is doubtful whether many significant new cultivar introductions will be forthcoming from the germplasm presently available.

As before, **VALID CULTIVAR** names are shown in boldface capitals and **INVALID CULTIVAR** names in lightface capitals.

ARISTOCRAT (Cole Nurs. Co., Circleville, Ohio, Fall 1974 Trade List, p. 53) — crown broader than 'Bradford', but less dense, with up-curved branching; leaves glossy, cupped, waxy, and wavy-edged; disease resistance very good. Plant Patent No. 3193, May 23, 1972. Selected in 1969 from seedlings planted in 1966 by William T. Straw, Independence, Kentucky and patented by him.

AUTUMN BLAZE (M.N. Westwood, HortScience 15: 830-831, 1980, illus.) — upright, pyramidal crown shape with lateral branches at about right angles to the main stem, early autumn leaf color. Originally called Oregon Pear Rootstock (OPR) 250. Selected in 1969 at the Department of Horticulture, Oregon State University, Corvallis, Oregon. Plant Patent No. 4591, September 9, 1980.

BRADFORD (W.E. Whitehouse, J.L. Creech, and G.A. Seaton, Amer. Nurseryman 117(8): 7-8, 56-58, 1963 illus.) — selected at the U.S.D.A. Plant Introduction Station, Glenn Dale, Maryland, from seedlings of Chinese origin seed; thornless and apparently highly resistant to diseases and insects; original tree 44 years old, 50 feet in height, with a 30-foot crown spread in 1963. Named for F.C. Bradford, former horticulturist at Glenn Dale. This was the first named cultivar of Callery pear, and demonstrated the wide potential for selection in this species.

CAPITAL (W.L. Ackerman, HortScience 16: 799-800, 1981, illus.) — narrow upright crown, thornless, bright purple-red autumn foliage, and small unoffensive fruits; resistant to fireblight.

CHANTICLEER (E.H. Scanlon & Assoc., Olmsted Falls, Ohio, Advert., Trees Mag. 26(1): 1, 1965, illus. Trade-marked) — conical crown shape, to 35 feet tall with 16-foot spread, foliage turns brilliant red in the fall. Selected from a tree planted in Cleveland, Ohio that was derived from commercial seed purchased in 1946; E.H. Scanlon, Trees Mag. 34(1): 6-7, 1975. Plant Patent No. 2489, March 23, 1965.

CLEVELAND SELECT (Lake County Nursery Exchange, Perry, Ohio, Cat. 1980, p. 60) — evenly branched tree with cone-shaped form. Likely propagated from same street tree as **CHANTICLEER**, and must be considered a commercial synonym of that cultivar.

FAURIEI (Cole Nurs. Co., Circleville, Ohio, Fall 1970 Trade List, p. 46) — grows to 15 feet, propagated from tree

growing at the Morton Arboretum, Lisle, Illinois; thornless like 'Bradford.' A. Rehder in Jour. Arnold Arb. 2: 61, 1920 reduced Schneider's *P. fauriei* to varietal status based on Korean specimens. Although the trees at the Morton Arboretum had a Korean origin (Wilson No. 8480), they have not retained a small stature after budding propagation. Cultivar name invalid because in Latin form after 1959, and plant should probably be regarded as a selection of *P. fauriei*.

PRINCESS (E.H. Scanlon & Assoc., Olmsted Falls, Ohio, 1976 Wholesale Price List, p. 28, illus. p. 4, Trade-marked) — a better round form than 'Bradford', and considerably hardier; 25-year-old parent tree about 28 feet tall with equal spread. Apparently selected from a street planting in Cleveland, Ohio.

RANCHO (E.H. Scanlon & Assoc., Olmsted Falls, Ohio, Wholesale List No. 16, Spring-Fall 1965, p. 78, Trade-marked)-columnar form. Fall leaf color attained 10 days earlier than 'Chanticleer', according to E.H. Scanlon & Assoc., 1976 Wholesale Price List, p. 28.

REDSPIRE (Princeton Nurs., Princeton, New Jersey, Wholesale Price List Fall 1975, p. 61) — forms a shapely narrow-oval crown, hardier and with larger flowers than 'Bradford.' Plant Patent No. 3815, December 16, 1975. Originated as a seedling of 'Bradford', but ceases growth earlier in fall and escapes damage from early frosts.

SELECT (Cole Nurs. Co., Circleville, Ohio, Fall 1969 Trade List, p. 41) — evenly branched tree of cone-shaped form, young trees blooming as well or better than 'Bradford.' Propagated from same street tree as **CHANTICLEER** and must be considered a commercial synonym of that cultivar.

TRINITY (Handy Nurs. Co., Portland, Oregon, Wholesale List, Fall 1978-Spring 1979, p. 25) — round-headed form, colors nicely in fall, thornless with very sparse small fruit. Plant Patent No. 4530, May 6, 1980. See XP-005.

WHITEHOUSE (W.L. Ackerman, HortScience 12: 591-592, 1977, illus.) — columnar form with strong central leader, producing a very narrow pyramidal crown, leaves color early in autumn and remain on the trees for a long time, sparse fruit production when not planted near other pears. Selected in 1969 from seedlings derived from open pollination of 'Bradford' growing at the U.S. Plant Introduction Station, Glenn Dale, Maryland. Named for W.E. Whitehouse, retired USDA horticulturist.

XP-005 (Handy Nurs. Co., Portland, Oregon, Wholesale Price List, Fall 1971-Spring 1972, p. 14) = **TRINITY**.

Literature Cited

1. Bean, W.J. 1976. Trees and shrubs hardy in the British Isle. Ed. 8 (rev.), Vol. III, John Murray Ltd.
2. Brickell, C.D., A.F. Kelly, F. Schneider, and E.G. Voss. 1980. International code of nomenclature for cultivated plants — 1980, Regnum Vegetabile Vol. 104, 32 p.
3. Institute of Botany of the Chinese Academy of Science. 1972. Iconographia Cormophytorum Sinicorum, Vol. II, Science Press (Chinese and Latin).
4. Lee, Yeong No. 1976. Illustrated flora and fauna of Korea, Vol. 18, Flowering plants, 893 p.
5. Nakai, T. 1916. Flora Sylvatica Koreana 6: 54.

6. Rehder, Alfred. 1920. *New species, varieties and combinations from the herbarium and the collections of the Arnold Arboretum*. Jour. Arn. Arb. 2: 42-64.
7. Santamour, Frank S., Jr. and Alice Jacot McArdle. 1982. *Checklist of cultivated maples. I. Acer rubrum L.*, J. Arboric. 8: 110-112.
8. Santamour, Frank S., Jr. and Alice Jacot McArdle. 1982. *Checklist of cultivated maples. II. Acer saccharum L.* J. Arboric. 8: 164-167.
9. Santamour, Frank S., Jr. and Alice Jacot McArdle. 1982. *Checklist of cultivated maples. III. Acer platanoides L.* J. Arboric. 8: 241-246.
10. Santamour, Frank S., Jr. and Alice Jacot McArdle. 1982. *Checklist of cultivated maples. IV. Acer saccharinum L.* J. Arboric. 8: 277-280.
11. Schneider, Camillo Karl. 1906. *Illustriertes Handbuch der Laubholzkunde*. 1: 66.
12. Westwood, Melvin N. 1968. *Comparison of Pyrus fauriei Schneider with P. calleryana Decaisne (Rosaceae)*. Baileya 16: 39-41.
13. Westwood, M.N. 1980. 'Autumn Blaze' ornamental pear. HortScience 15: 830-831.
14. Whitehouse, W.E., J.L. Creech, and G.A. Seaton. 1963a. *Bradford ornamental pear — a promising shade tree*. Amer. Nurseryman 117(8): 7-8, 56-58.
15. Whitehouse, W.E., J.L. Creech, and G.A. Seaton. 1963b. *A new flowering shade tree — the 'Bradford' pear*. Amer. Hort. Mag. 42: 151-157.
16. U.S. Department of Agriculture. 1922a. Inventory of seeds and plants imported by the Office of Foreign Seed and Plant Introduction during the period from October 1 to December 21, 1917, (No. 53; Nos. 45221 to 45704), 86 p.
17. U.S. Department of Agriculture. 1922b. Inventory of seeds and plants imported by the Office of Foreign Seed and Plant Introduction during the period from January 1 to March 31, 1919, (No. 58; Nos. 46951 to 47348), 56 p.

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ABSTRACT

Berberich, Stephen. 1982. **Several new weapons show promise in the battle against gypsy moth**. Am. Nurseryman 156(1): 187-190.

Each spring communities in areas hardest hit by gypsy moth caterpillars must decide whether to spray pesticides. With limited control options, developing strategies for dealing with this formidable forest pest can be frustrating. Many of these new methods need further testing, but they show much promise. They also reflect the trend toward integrated pest management as an effective way to control insects that harm nursery crops and other plants. Numerous integrated programs for gypsy moth could be possible because of the many control methods, chemical and otherwise, that are available now or will be soon. Foreign parasites have been imported to fight gypsy moth in northeastern forests since 1980. The latest recruit, a tiny parasitic wasp, shows much potential for battling the pest. Scientists have recently reported improvements in a viral insecticide that can be used for controlling the pest. The insecticide, called Gypchek, contains a naturally occurring virus that is harmful to gypsy moth caterpillars. USDA scientists stopped a strong outbreak of gypsy moth in Michigan in spring, 1981, by releasing 10,000 sterilized male moths per day into infested forests. The sterile males mate with fertile females, but no offspring are produced, resulting in lower pest populations.