

Checklist of Cultivars of North American Ash (*Fraxinus*) Species

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Abstract. Cultivars of 7 species of *Fraxinus* native to North America are described and discussed: *F. americana*, *F. latifolia*, *F. nigra*, *F. pennsylvanica*, *F. quadrangulata*, *F. uhdei*, and *F. velutina*.

The ashes (*Fraxinus* spp.) are native only to North America, Europe, and Asia. Of the 65 species (3), relatively few are important landscape trees. Six species native to North America are currently common in the United States nursery trade, and a cultivar of one other American species has recently been grown in The Netherlands.

F. pennsylvanica Marshall (green ash) has the widest natural distribution of any North American ash species, ranging from the East Coast west to Texas and Montana and from near 55° N. Lat. in Canada to about 30° N. Lat. in Florida and Texas. The native range of *F. americana* L. (white ash) is only slightly less extensive, especially in its more restricted western U.S. distribution and lack of extension into the prairie provinces of Canada. Black ash (*F. nigra* Marshall) is another eastern species, ranging from Maine to Minnesota and south to West Virginia and Indiana, with a broad range between 45° and 50° N. Lat. in eastern Canada. The range of blue ash (*F. quadrangulata* Michaux) is restricted to a few states, notably Ohio, Kentucky, Indiana, Illinois, and Missouri, between about 35° and 43° N. Lat. The other 2 cultivated species are of western origin. The Arizona or velvet ash (*F. velutina* Torrey) ranges from Texas through Arizona and New Mexico to southern California, and also occurs in Mexico. The Oregon ash (*F. latifolia* Benth) ranges from Washington to northern California. The Shamel ash (*F. uhdei* (Wenzig) Lingelsheim) is being grown in California. It is native to Mexico from Sinoloa Province on the west central coast of San Luis Potosi and Oaxaca. Standley (8) noted that it was frequently planted

as an evergreen shade tree in the Valley of Mexico, especially around Guadalajara. It is also cultivated in Hawaii and known as the "Hawaiian" ash.

Most of these species have had other botanical epithets in the past, but the names given above are currently the accepted standards. A major problem is the use of varietal names in *F. pennsylvanica*. The leaves of *F. pennsylvanica* are supposed to be pubescent beneath, white those of var. *lanceolata* (Borkhausen) Sargent are glabrous. The common name of the species was "red" ash and that of the variety was "green" ash. Fernald (Rhodora 49: 145-159, 1947) proposed *F. pennsylvanica* var. *subintegerrima* (Vahl) Fernald as a replacement, based on priority, for the glabrous type. Since both glabrous- and pubescent-leaved plants can occur in the progeny from an individual female tree, we have followed Little (2) in not recognizing the varieties and using "green" ash as the common name for all trees of the species. Likewise, we followed Little (2) in disregarding *F. velutina* var. *glabra* Rehder and other varieties of that species.

Actually, the greatest confusion in nomenclature of ash cultivars in the United States was caused by the mis-applied common name, "blue" ash. Kimberly Nurs., Kimberly, Idaho, sold "blue" ash and "green" ash, presumably seedling stock, beginning about 1936. In their 1944 catalog (p. 4), they singled out the "blue" ash as a new type of their "own propagating." Their 1945 catalog (p. 4) listed "our new blue ash" which was "budded from selected male trees only." The tree was illustrated and it was stated that it had been developed over a period of ten years. The name 'Kimberly Blue' first appeared in their unpaginated 1954 price list, which also included an illustration of the tree. At no time did any of the Kimberly catalogs give the scientific name of their "blue"

ash, but they seldom used the botanical name of any tree species.

Thus, it was left to other nurserymen to assign the proper botanical epithet, and although J.C. McDaniel (*Amer. Nurseryman* 115(1): 97, 99, 1962) pointed out that 'Kimberly Blue' was actually a form of *F. excelsior* L. (European ash), many nurserymen continued to list it without a botanical name, or assign it to another species. In the listings that follow, we have found references to 'Kimberly Blue' as a cultivar of both *F. pennsylvanica* and *F. quadrangulata*. In our telephone and mail inquiries regarding this cultivar, we have even received opinions that the plant belongs to *F. holotricha* Koehne or *F. nigra*! The most appropriate and proper listing for the cultivar is *F. excelsior* 'Kimberly,' eliminating the confusing "Blue" from the name. Our inquiries also disclosed that this cultivar has not been popular lately, because of a "virus" or "decline." We wonder if this is not simply a case of latent graft incompatibility caused by budding *F. excelsior* on *F. pennsylvanica*.

It is also interesting that 'Kimberly' was propagated from "male trees only," since the flowers of *F. excelsior* are polygamous, with male, female, and perfect flowers on the same tree. We have noted a general lack of fruit production on several European ash cultivars growing in the National Arboretum, usually because most of the flowers are killed by late frost. Of the North American species discussed here, all are dioecious except *F. quadrangulata*, which normally has perfect flowers.

In the checklist that follows, the cultivars are discussed under the respective species which are listed in alphabetical order. It will be noted that the cultivar names 'Alba Marginata' and 'Argentea Marginata' are found under both *F. americana* and *F. pennsylvanica*. In previous checklists (4, 5, 6, 7), names such as 'Columnare,' and 'Globosum' and 'Variegatum' were each used for more than one maple species. The International Code of Nomenclature for Cultivated Plants — 1980 (1) states in Article 50 that "No more than one cultivar may have the same name with the same cultivar class." Cultivar classes may be genera, species, or other groups. We have regarded the species as the cultivar class in all the landscape

trees we have dealt with, and do not believe this has caused any confusion, since most of the species are easily identified and do not freely hybridize. Furthermore, it is unlikely that the use of the same cultivar name for different species in the same genus will be a problem in the future, or even since 1958, since the use of "descriptive" Latin terms is now invalid.

The principal value of cultivar checklists is the establishment and maintenance of nomenclatural stability in cultivated plants, according to the Code (1). The U.S. National Arboretum became the International Registration Authority for unassigned genera of woody plants on January 1, 1981. Since that time we have undertaken the compilation of authoritative checklists of the major landscape tree species in the United States.

As in previous lists, **VALID CULTIVAR** names are given in boldface capitals and **INVALID CULTIVAR** names in lightface capitals.

Fraxinus americana

ACUMINATA - Listed by G. Krussmann, *Handbuch der Laubgehölze*, Berlin, 1960, p. 451, as a cultivar. J.C. Loudon, *Arb. et Frut. Brit.* II, 1844, p. 1232, 1246, 1247, considered *acuminata* as a botanical variety or synonymous with the species (= *F. acuminata* Lamarck). However, *acuminata* has been sold by commercial nurseries (H.A. Hesse, Germany, 1932-1933 and other years). Leaves with entire margins, tip long-acuminate.

ALBA MARGINATA (L. Beissner, E. Schelle, and H. Zabel, *Handbuch der Laubholz-Benennung*, 1903, p. 408) - without description. As *F. americana foliis albomarginatis* Hort. in L. Dippel, *Handbuch der Laubholzkunde*, Berlin, 1889, p. 76, with white-bordered leaflets.

ARGENTEA MARGINATA (L. Beissner, E. Schelle, and H. Zabel, *Handbuch der Laubholz-Benennung*, Berlin, 1903, p. 408) - ascribed to Spath, 1883. Listed in L. Spath *Baumschule*, Berlin, Cat. 1882-83 as a new origination with white-bordered foliage.

ASCIDIATA (A.M. (eunissier), *Gard. Chron.* 76: 335, illus., 1924) - with terminal leaflet bases, and sometimes those of other leaflets, modified into "pitchers." Described from tree sent to France by George H. Shull (U.S.A.), who first reported these leaf abnormalities in *Science* 23: 201-202, 1906.

AUTUMN APPLAUSE (Wandell's Nurs. Inc., Urbana, Illinois, *Advert.*, *Amer. Nurseryman* 146(1): 99, 1977) - without description. Plant Patent No. 3769, August 1975. Broad, upright spreading shape with fine-textured foliage that turns purple in the fall; male.

AUTUMN PURPLE (McKay Nurs. Co., Waterloo, Wisconsin, Price List 265 (February 1956), p. 8) - without description. Also in Cole Nurs. Co., Circleville, Ohio, Cat. 1968, p. 19, Trade-marked, as "seedless, deep purple or mahogany Fall color." Tree discovered by Karl Junginger, McKay Nurs., Co., on the campus of the University of Wisconsin, Madison, Wisconsin. Introduced jointly by Cole and McKay.

CHAMPAIGN COUNTY (Wandell's Nurs., Inc., Urbana, Illinois, Advert., Amer. Nurseryman 146(1): 99, 1977) - misspelled as 'Champaign Count,' without description. Plant Patent No. 3762, August 12, 1975. Dense growth habit, large dark green leaves with a leathery texture. Sex unknown in 1981.

ELLIPTICA (L. Beissner, E. Schelle, and H. Zabel, Handbuch der Laubholz-Benennung, 1903, p. 408) - without description.

HILLCREST (The Siebenthaler Co., Dayton, Ohio, Trade List Fall 1977, p. 17) - without description.

JUGLANDIFOLIA (Pierre Lombarts Nurs., Zundert, The Netherlands, Cat. 1957-58, p. 76) - with small, shiny leaves, pilose underneath, toothed near the apex. Name also used as species epithet synonymous with *F. americana*.

KLEINBURG (W. Stensson, Canad. Nurseryman 7(3): 7-11, 1970) - upright compact form. According to Sheridan Nurs. Ltd., Oakville, Ontario, Canada, Cat. 1973, p. 37, this is a dependable tree on heavy soils. Registered with the Canadian Ornamental Plant Foundation, January 1, 1972. Tree discovered in Kleinburg, Ontario.

LONGIFOLIA (L. Beissner, E. Schelle, and H. Zabel, Handbuch der Laubholz-Benennung, 1903, p. 408) - without description.

MACROPHYLLA (L. Dippel, Handbuch der Laubholzkunde, Berlin, 1889, p. 76) - with larger, roundish or wide-oval leaflets.

MANITOU (Sheridan Nurs. Ltd., Oakville, Ontario, Canada, Cat. 1976, p. 50) - decidedly columnar, with a well branched head; grows well in heavy clays.

MICROCARPA (A. Gray, Syn. Fl. North Amer. II, 1, p. 75, 1878) - as a botanical variety of *F. americana*, with small samaras. Sold as a cultivar by Boomkwekerij Udenhout, The Netherlands, Cat. 1977, p. 34 as a tree more columnar than normal.

ROSEHILL (Alfred Teufel Nurs., Portland, Oregon, Cat. 1966-1967, p. 24, illus.) - rapid growing and extremely hardy, with an excellent branching habit; foliage turns an attractive purplish red in fall; resistant to borers and diseases; tolerates poor alkaline soils and transplants well. A selection made by Evert Asjes, Jr., Rosehill Gardens Inc., Kansas City, Missouri. Plant Patent No. 2678, October 11, 1966. Seedless.

SALICIFOLIA (L. Dippel, Handbuch der Laubholzkunde, Berlin, 1889, p. 76) - described in same terms as

MACROPHYLLA, but considered distinct.

SERRATA (L. Beissner, E. Schelle, and H. Zabel, Handbuch der Laubholz-Benennung, 1903, p. 408) - as a horticultural variety of *F. juglandifolia* Lamarck, without description.

SKYLINE (Anon., Flower and Garden, 25(1): 70, 1981) - seedless; developed and released by American Garden Cole, Inc., Circleville, Ohio; strong upright branches form a compact, oval head. Plant Patent No. 4756, August 4, 1981. Male

SUBSERRATA (L. Beissner, E. Schelle, and H. Zabel, Handbuch der Laubholz-Benennung, 1903, p. 408) - as a horticultural variety of *F. juglandifolia* Lamarck, without description.

TOMENTOSA (L. Beissner, E. Schelle, and H. Zabel, Handbuch der Laubholz-Benennung, 1903, p. 408) - without description.

WAVERLY (W. Stensson, Canad. Nurseryman 7(3): 7-11, 1970) - compact form, selected near Bowmanville, Ontario. Registered with the Canadian Ornamental Plant Foundation.

Fraxinus latifolia

GLABRA (Pierre Lombarts Nurs., Zundert, The Netherlands, Cat. 1960-1961, p. 74) - with synonym (Washington 'Glabra'); dark twigs, tan buds, leaf form intermediate between *americana* and *pennsylvanica*; very beautiful and rare. Listed as *F. washingtonii* 'Glabra' in 1957-1958 Catalog, p. 77.

PULVERULENTA (H. Jager and L. Beissner, Die Ziergeholze, Ed. 3, Weimar, 1889, p. 164) - as *F. oregona* var. *pulverulenta*, leaves pulverulent (appearing as covered with minute grains of dust.)

Fraxinus nigra

CRISPA (E. Petzold and G. Kirchner, Arboretum Musciense, Gotha, 1864, p. 511) - as *F. sambucifolia crispa*, of more shrub-like growth with weak twigs and curled, crowded leaves.

CUCULLATA (E. Petzold and G. Kirchner, Arboretum Musciense, Gotha, 1864, p. 512) - as *Fraxinus sambucifolia cucullata*, with puffed-up leaves, which give the tree a somewhat abnormal appearance.

FALLGOLD (W.G. Ronald, Canad. Jour. Plant Sci. 56: 405, 1976) - selected from seedlings of Manitoba, Canada origin, upright growth form, seedless; golden autumn leaf color retained longer than normal. Registered with the Canadian Ornamental Plant Foundation, January 1, 1976. Also registered with the Arnold Arboretum (S.A. Spongberg, AABGA Bull. 12: 65-67, 1978).

There is also a narrow-crowned selection of *F. nigra* that has been patented by Ashur L. Cordes of Henning, Minnesota (Plant Patent No. 3754, July 29, 1975). This selection has not been named or distributed.

Fraxinus pennsylvanica

ALBA MARGINATA (L. Beissner, E. Schelle, and H. Zabel, Handbuch der Laubholz-Benennung), 1903, p. 407) - without description, = **ALBO-MARGINATA**.

ALBO-MARGINATA (K. Koch, Dendrologie, 1872, p. 255) - as *F. pubescens albo-marginata*, without description.

ARGENTEA MARGINATA (L. Beissner, E. Schelle, and H. Zabel, Handbuch der Laubholz-Benennung, 1903, p. 407) - as *F. pubescens argentea marginata* Hort. Spaeth, without description, but not found in 1901-1902 catalog of that nursery.

AUCUBAEFOLIA (E. Petzold and G. Kirchner, Arboretum Muscaviense, Gotha, 1864, p. 507) - as *F. aucubaeifolia* Hort., leaves gold-flecked like those of *Aucuba japonica*.

AUCUBAEFOLIA NOVA (E. Petzold and G. Kirchner, Arboretum Muscaviense, Gotha, 1864, p. 508) - as *Fraxinus aucubaeifolia nova*, with larger and more irregular gold flecks on leaves. K. Koch, Dendrologie, 1872, p. 255, stated that this form was grown in the nursery of James Booth and Sons in Flottbeck near Altona, Germany.

BERGESON (Bergeson Nurs., Fertile, Minnesota, Price List, Spring, 1981, p. 2) - without description. Plant Patent No. 4904, October 26, 1982; fast growing, straight trunked, male. Grown from seed collected in northern Minnesota.

CARDAN (Anon., North Dakota Outdoors, May, 1979), p. 15) - released jointly by USDA Soil Conservation Service and Science and Education Administration for farmstead and field windbreak planting in the northern Great Plains; resistance to ash borer has not been adequately proven, but it appears that it is equal to or greater than common green ash. This is a *seed-propagated* cultivar, which is allowable under the Code (1), and 'Cardan' pertains to the third open-pollinated generation that originated from a single-tree seed collection made by Ernest George in 1954 in Montana.

CENTER POINT — Name found in the records of the Plant Sciences Data Center of the American Horticultural Society. Tree at the Univ. Min. Landscape Arboretum, Chaska, Minnesota. Seedling selection made and propagated by Albert Ferguson at Linn County Nurs., Center Point, Iowa, but never described or commercially available. Male.

DESERT (Amfac Nurs. Ref. Cat., undated, but pub. in 1981, p. 48) - as *Fraxinus pennsylvanica lanceolata* 'Desert Ash,' propagated from seed. Of doubtful validity as to species.

EMERALD (Marshall Nurs., Arlington, Nebraska, Cat. Spring 1971, p. 6) - new seedless introduction, medium height, round-headed tree to 40 feet, with dark, glossy green leaves and a characteristic bark resembling that of hackberry. Seedling of Nebraska origin. Plant Patent No. 3088, March 28, 1972.

FAN-WEST (L.E. Cooke Co., Visalia, California, Cat. Fall

1976 - Spring 1977, p. 8, Trade-marked) - as *Fraxinus lanceolata* Fan-West, a seedless cross of Texas green ash and Arizona Ash, light olive green leaves on a good limb-head structure. Found by Eddie Fanick of San Antonio, Texas as a natural seedling on the banks of the Guadalupe River. The tree resembled *F. pennsylvanica* (*Lanceolata*) more than *F. velutina* and thus is included under the former.

FASTIGIATA - Name found in records of the Plant Sciences Data Center of the American Horticultural Society. Plants originally propagated under this name by the Morton Arboretum, Lisle, Illinois, from a tree in Owen Sound, Ontario, Canada. Tree never described or introduced.

HOLLYWOOD - Name found in the records of the Plant Sciences Data Center of the American Horticultural Society. Tree at the Univ. Minn. Landscape Arboretum, Chaska, Minnesota. Male tree growing on Hollywood Ave., Cedar Rapids, Iowa, selected and propagated by Albert Ferguson of Linn County Nurs. Center Point, Iowa. Never described or commercially available.

HONEYSHADE (Klehm Nurs., Arlington Heights, Illinois, Cat. 1973, p. 8) - new seedless type with glossy leaves and fast growth. Plant Patent No. 3385, August 21, 1973.

JEWELL (Jewell Nurs., Inc., Lake City, Minnesota, Wholesale Price List, Fall 1975 - Spring 1976, p. 3) - well branched head, leaves dark green and shiny, few seeds.

KIMBERLY (J. Frank Schmidt and Son Co., Boring, Oregon, Wholesale Price List, Fall 1978 - Spring 1979, p. 8) - as *Fraxinus pennsylvanica lanceolata*. This cultivar is really *Fraxinus excelsior* 'Kimberly.'

KIMBERLY BLUE (J. Frank Schmidt & Son Co., Troutdale, Oregon, Wholesale Price List, Fall 1972 - Spring 1973, p. 1) - as *Fraxinus penn. lanc. quadrangulata*; in Wholesale Price List, Fall 1973 - Spring 1974, p. 1, as *Fraxinus penn. lanc.* This cultivar is really *Fraxinus excelsior* 'Kimberly.'

KINDRED (Cross Nurs., Inc., Lakeview, Minnesota, Wholesale Price List, Fall 1979 - Spring 1980, p. 5) - straight, fast growing, good foliage, and seedless. Selected by Ben Gilbertson, Kindred, North Dakota.

MARSHALL SEEDLESS (Cole Nurs. Co., Painesville, Ohio, Fall 1955 Trade List, p. 7) — handsome, shapely tree with extremely dark green glossy foliage, entirely free of seed. Porter-Walton Co., Salt Lake City, Utah, Garden Book No. 46 (1946), p. 56, offered male green ash propagated from "non-seed-bearing trees." Some of this material was purchased by Marshall Nurs., Arlington, Nebraska, who, in several undated listings offered "Seedless Ash." Cole Nurs. Co. purchased plants from Marshall, and were the first to use the cultivar name. Because of its origin as "trees" in Utah, this cultivar name may actually apply to several genotypes.

MORaine (Amfac Nurs. Ref. Cat., undated, but publ. in 1981, p. 48) — as *Fraxinus pennsylvanica lanceolata* 'Moraine.' Actually is *F. holotricha* 'Moraine.'

NEWPORT (Bailey Nurs., Inc., St. Paul, Minnesota, Wholesale List No. 1, 1979-80, p. 22) — straight trunk and good branching habit, seedless; formerly called "Bailey's Select Green Ash." Registered with the Arnold Arboretum (S.A. Spongberg, AABGA Bull. 14: 97-100, 1980).

NIORARA (Col Nurs. Co., Painesville, Ohio, Fall 1957 Trade List, p. 6) — pyramidal type with much the same form as pin oak. Female.

PATMORE (W.G. Ronald and J. Driedger, HortScience 13: 484-485, 1978 illus.) — selected from seedlings growing in the town of Vegreville, Alberta, Canada, by R.H. Patmore, Brandon, Manitoba, Canada; seedless with erect trunk and evenly branched crown. Registered with the Canadian Ornamental Plant Foundation, January 1, 1975. Also registered with the Arnold Arboretum (S.A. Spongberg, AABGA Bull. 13: 75-77, 1979).

SOUTH DAKOTA — Name found in records of the Plant Sciences Data Center of the American Horticultural Society. Tree at Univ. Minn. Landscape Arboretum, Chaska, Minnesota. Cultivar tested under this name by Bergeson Nurs., Fertile, Minnesota, but never commercially available.

SUMMIT (Summit Nurs., Stillwater, Minnesota, Wholesale List, July 22, 1957) — straight trunk and symmetric head. D. Wyman, Trees for American Gardens, 1965, p. 243, stated that this cultivar is female.

STERILE — name used in catalogs of The Siebenthaler Co. (Nurs.) Dayton, Ohio as synonymous with **MARSHALL SEEDLESS**.

TORNADO (Smith Nursery Co., Charles City, Iowa, Retail Price List, 1974, p. 1) — strong, straight, hardy. Does produce seeds.

VARIEGATA (L. Beissner, E. Schelle, and H. Zabel, Handbuch der Laubholz-Benennung, 1903, p. 407) — without description. According to Hillier's Manual of Trees and Shrubs, 1972, p. 126, leaves are silver-grey, margined and mottled cream-white.

VELUTINA — First propagated by the Dutch nurseryman L.Y. Brouwers from a tree in the Belmonte Arboretum, Wageningen, The Netherlands, between 1960 and 1965. Listed in Brouwers Boomkwekerijen B.V., Groenekan, as if it were a variety. Propagated by the N.A.K.B. (Nederlandse Algemene Keuringsdienst voor Boomkwekerij), the General Netherlands Service for the Inspection of Trees, as a cultivar. "Velutina" cannot be a valid cultivar name because it was used in the Latin form after 1959.

VINTON (Linn County Nurs., Center Point, Iowa, Cat. Spring 1960, p. 5) — seedless.

ZUNDERT (Pierre Lombarts Nurs., Zundert, The Netherlands, Cat. 1957-58, p. 77) — selected by W.J. Hendriks, Amsterdam, for upright growth habit and columnar form.

Fraxinus quadrangulata

GLOBOSA (E.H. Scanlon & Assoc., Olmsted Falls, Ohio, Cat. No. 11, Fall 1959-Spring 1960, p. 26) — as globeheaded blue ash, to 25 feet. Later, E.H. Scanlon & Assoc., Wholesale List No. 14, Fall 1962-Spring 1963, p. 35, it was reported that this cultivar was really a European ash, and it was renamed *F. excelsior* 'Rancho.'

KIMBERLY BLUE (J. Frank Schmidt & Son Co., Troutdale, Oregon, Wholesale Price, Fall 1972-Spring 1973, p. 1) — as *Fraxinus penn. lanc. quadrangulata*. This is really *F. excelsior* 'Kimberly.'

URBANA BLUE — Name found in records of Plant Sciences Data Center of the American Horticultural Society. Plant received at Morris Arboretum, Philadelphia, Pennsylvania from J.C. McDaniel, Urbana, Illinois in 1965, grafted on *F. excelsior*. Plant now dead.

WESTERN BLUE (Wandell's Nurs., Urbana, Illinois, Advert. Amer. Nurseryman 146(1): 99, 1977) — as *F. quadrangulata*, Western Blue Kimberly ash; should be *F. excelsior* 'Kimberly.'

Fraxinus uhdei

HAGEN — Name found in records of Plant Sciences Data Center of the American Horticultural Society. Plants at Saratoga Horticultural Foundation, Saratoga, California, obtained in 1951 from Hagen Nursery, San Marino, California. Cultivar never widely distributed or offered for sale.

MAJESTIC BEAUTY (Monrovia Nurs. Co., Azusa, California, Wholesale Catalog, 1966-67, p. 47) — medium-sized, round-headed tree with huge, compound, glossy dark green leaves. Patented by Markie McCabe, Azusa, California. Plant Patent No. 2860, January 28, 1969. Staminate.

SEXTON — Plants growing in the collections of the Saratoga Horticultural Foundation, Saratoga, California under this name; obtained in 1970 from Paul Gaines Nurs., San Dimas, California. Cultivar may never have been properly described or widely distributed.

TECATE — Registered as AAN Register 363 (without description) as *Fraxinus* Tecate in Proc. Amer. Assoc. Nurserymen 79th Ann. Conv., 1952, p. 9, by John D. Shamel, Costa Mesa, California. Although the species was not indicated, we believe it was *F. uhdei*, because of the use of "Shamel" ash as a common name for this species in California. Name invalid because of lack of published description.

TOMLINSON (Select Nurseries, Inc., Brea, California, Wholesale Price List, 1965, p. 20) — medium-sized pyramidal tree with deep green foliage. Plant Patent No. 2567, November 2, 1965.

Fraxinus velutina

FAN-TEX (Aldridge Nurs., Van Ormy, Texas, Cat. Fall 1962-Spring 1963, p. 49) — seedless, rapid growing, large dark green leaves, uniform symmetrical top growth. Plant Patent No. 2412, June 23, 1964. Selected by Eddie Fanick, San Antonio, Texas.

MODESTO (Stribling's Nurs., Merced, California, Cat. Fall 1948-Spring 1949, and perhaps earlier) — as a budded cultivar of *F. velutina* var. *glabra* with rapid growth rate and glossy foliage; had been tested for 19 years in 1949. The name 'Modesto' has come to be used mistakenly by some authors as a synonym for the variety.

RIO GRANDE (L.E. Cooke Co., Visalia, California, Cat. Fall 1965-Spring 1966, p. 5) — glossy leaves, near white bark, = **FAN-TEX**.

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ABSTRACT

PARTYKA, R.E. 1983. **Landscape.** *Weeds, Trees & Turf* 22(5): 40, 44, 46, 50, 52, 56.

Insect damage to woody ornamentals can vary from the subtle insignificant to widespread destruction that eventually results in death of plants. There are many plants included in the ornamental area with a varied assortment of insects on each species. This results in a relatively large number of insect pests that can be destructive to ornamentals. Fortunately, all of these insect pests do not appear at one time or in one year, as many of them are cyclic. Life cycles and general biology of the insects are important in determining sensible control strategies. Often times, early control materials can be used in reducing the pest and are safer to the applicator and environment. Treatment at the appropriate stage of development can result in good suppression with a safer material of relatively low toxicity. In some cases, reasonable control can only be obtained at a certain stage in the life cycle of the insect and this becomes critical if one is to obtain satisfactory results. Materials to use on a specific pest need to be determined based on research results, climatic conditions, size and age of the pest, plant reactions, equipment capabilities, area where the material is to be used, and effects on other forms of life. It should be understood that 100 percent control of a pest is not practical or possible. Shifting a delicate balance where and when it is needed is the prime aim of pest control. Therefore, many other factors need to be considered in maintaining strong healthy plants that are capable of withstanding a degree of insect injury but can recover in a short period of time with minimum visual symptoms and little impact on total plant vigor.