CHECKLISTS OF CULTIVARS OF EUROPEAN ASH (FRAXINUS) SPECIES

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

Abstract. Cultivars of 4 species of Fraxinus native to Europe are described and discussed: F. angustifolia (incl. F. oxycarpa), F. excelsior, F. holotricha, and F. ornus.

According to Rehder (2), there are 8 species of Fraxinus native to Europe. This number has been reduced to 4 or 5 by Scheller (4). Scheller sunk F. numidica Vahl and F. oxycarpa Willdenow in the synonomy of F. angustifolia Vahl, and listed F. rotundifolia Miller as a doubtful species that is probably not worthy of consideration. Actually the specific name rotundifolia had been used by other authors to describe variants in the synonomy of both F. angustifolia and F. ornus L. Scheller considered F. pallisae Willmott, from the eastern Balkan Peninsula, as valid, but no cultivars are known in this species. There is some doubt whether F. pallisae and F. holotricha Koehne are the same species, since F. holotricha was described from cultivated specimens in the arboretum of L. Spath Nurs. in Berlin in 1906 and still is not known in the wild.

It is likely that all plants currently known as F. holotricha are descendents of these arboretum trees and their progeny sold by Spath nursery. We have followed Scheller (4) in retaining the name F. holotricha, but largely because a widely distributed cultivar ('Moraine') selected in the United States has been cultivated under this name.

Fraxinus excelsior L. is known as the European ash and it is found throughout most of Europe from Great Britain to the Baltic region of the Soviet Union, except for the northern, southern, and eastern margins. European botanists and horticulturists have selected and named more than 100 variants of this species but few are currently widely cultivated in the United States. The lack of familiarity with this species by American horticulturists in the past has led to some problems of specific identification. The F. excelsior cultivars 'Rancho' and 'Kimberly' were both selected in the United States but first ascribed to other species. The 'Kimberly' situation is more fully discussed in our earlier paper (3).

The other European species are more southerly in their native distribution. Fraxinus ornus, the flowering or manna ash, if found in the Mediterranean region and South Central Europe. At one time (ca. 1838), northern European botanists considered that this species had both European and North American components (Ornus americana Pursh), but this concept was shown to be incorrect.

The taxa known as F. angustifolia and F. oxycarpa occupy similar ranges in southern Europe and, although they both may be considered as subspecies of F. angustifolia, Scheller (4) pointed out that the variable leaf pubescence of F. oxycarpa was not sufficient to justify either the specific or subspecific status.

As mentioned earlier, F. holotricha was described from cultivated specimens. Rehder (2) gave its range as the eastern Balkan Peninsula, which is similar to that of F. pallisae, and the two species may be synonymous.

Whitish floral corollas are present in the flowering ash (F. ornus) — hence its common name — and the flowers are fragrant. In this species, as well as the others, flowering is polygamous, with unisexual and bisexual flowers on the same plant. In practice, however, it has apparently been possible to select some cultivars of F. excelsior as "male" or "female" based on the predominant flower type.

Cultivar checklists are published to establish and maintain stability in the nomenclature of cultivated plants according to the International Code of nomenclature for Cultivated Plants (1). On January 1, 1981, the U.S. National Arboretum was named the International Registration Authority for unassigned woody genera. We have ac-
cected, as part of this authority, the responsibility to provide suitable checklists of important landscape tree species and genera. We urge all nurserymen and scientists who intend to introduce a new ash (or a plant of the many other unassigned genera) to contact Dr. T.R. Dudley at the U.S. National Arboretum, Washington, D.C. 20002 for registration forms and other information.

This is the second (and last) cultivar checklist in our current series on Fraxinus. The cultivars are discussed under their respective species which are listed in alphabetical order. There are many Asiatic ash species, but very few cultivars have been selected and we will not deal with these in the near future. As in previous checklists, VALID CULTIVAR names are given in boldface capitals and INVALID CULTIVAR names in lightface capitals.

Fraxinus angustifolia


AMARA (K. Koch, Dendrologie 2, 1872, p. 244) — listed under F. excelsior but Koch had not seen the flowers or fruit and stated it might belong to F. oxycarpa; leaves somewhat narrow with brownish wool along the midrib beneath.

AMARISSIMA (K. Koch, Dendrologie 2, 1872, p. 246) — as Fr. amarissima; brought into the trade by Loddiges (Nurs.), Hackney, England; buds almost black-brown, upper surface of leaves dark green.


ARGENTEA (K. Koch, Dendrologie 2, 1872, p. 247) — as Fr. argentea, a name used by the Flottbecker Nursery. May = F. angustifolia.


AUREA PENDULA (L. Spath Nurs., Berlin, Cat. Fall 1937-Spring 1938, p. 74, and perhaps earlier catalogs) — as F. parvifolia aurea pendula, branches pendent, yellow-barked.


BORNULLERI (A. Lingelsheim, in A. Engler, Das Pflanzenreich, IV. 243 I, 1920, p. 54) — leaflets beneath towards the base crisped-grey-villous.

CALABRICA (K. Koch, Dendrologie 2, 1872, p. 247) — as Fr. calabrica, a name used in the garden for F. angustifolia.

CHINENSIS (K. Koch, Dendrologie 2, 1872, p. 247) — as Fr. chinensis, a name used in the garden for F. angustifolia. Also in L. Dippel, Handbuch der Laubholzkunde 1, 1889, p. 91; a name found in one nursery for a small-leaved selection similar to ‘Microphylla.’

CLARET (W.R. Hildreth, California Horticultural Journal 34(1): 37-38, 1973) — common name used in Australia for RAYWOOD.

CUSPIDATA (L. Dippel, Handbuch der Laubholzkunde 1, 1889, p. 90) — as Fraxinus oxycarpa cuspidata. Leaf tips sharp-pointed.


EDENTATA (L. Dippel, Handbuch der Laubholzkunde 1, 1889, p. 90) — as Fr. oxyc. edentata; delicate twigs, remains low.

EDENTATA FOLIIS VARIEGATIS (L. Dippel, Handbuch der Laubholzkunde 1, 1889, p. 90) — as Fr. edentata foliis variegatis; white-variegated leaflets, somewhat sensitive to winter cold. = EDENTATA VARIEGATA to correct orthography.

EDENTATA VARIEGATA (L. Beissner, E. Schelle, and H. Zabel, Handbuch der Laubholz-Benennung, 1903, p. 411) — as Fraxinus oxycarpa edentata variegata hort., without description. See EDENTATA FOLIIS VARIEGATIS.


EPIPETRA (L. Dippel, Handbuch der Laubholzkunde 1, 1889, p. 90) — as Fr. oxyc. epipetra; with up to 10 or 15 pin-

nules.
FLAME (E.H. Scanlon & Assoc., Olmsted Falls, Ohio, Advert., Trees Mag. 25(6): 23, 1965) — as *Fraxinus oxycarpa* 'Flame': symmetrical round head; narrow bladed leaves turn from a dark glossy green to burgundy, then to a flame color. Plant Patent No. 2566, November 2, 1965; discovered in a public park planting of *Fraxinus oxycarpa* in Melbourne, Australia.

GOLDEN DESERT (E.H. Scanlon & Assoc., Olmsted Falls, Ohio, Wholesale List No. 15, Fall 1963-Spring 1964, p. 45, Trademarked) — as *Fraxinus oxycarpa aurea* -Golden Desert Ash; golden bark and green foliage turning to gold about July. The Latin epithet was later changed to *Fraxinus oxycarpa aureofolia*, also with the note "Patent Pending," in Trees Mag. 24(5): 5, 1964. Apparently never actually patented. Since the "variety" names *aurea* and *aureofolia* are in Latin form and published after January 1, 1959, we have taken 'Golden Desert' as the valid cultivar name.

HARTWIGII (A. Lingelsheim, in A. Engler, Das Pflanzenreich, IV. 243 l, 1920, p. 55) — branchlets pendulous, purulent (appearing as covered with minute grains of dust).

LENTISCIFOLIA (B.K. Boom, Nederlandse Dendrologie, Wageningen, 1972, p. 386) — listed as a cultivar with authorities (Desfontaines) Henry. However, Henry In H.J. Elwes and A. Henry, The Trees of Great Britain and Ireland, Edinburgh, 1909, p. 880, stated that he could not distinguish this from other cultivated or wild specimens.


MARSHALS (Pepinieres Minier, Angers, France, Cat. Autumn 1974, p. 107, and perhaps earlier catalogs) — as *Fraxinus oxycarpa* 'Marshals'. May = *F. pensylvanica* 'Marshall Seedless'.

MICROPHYLLA (L. Dippel, Handbuch der Laubholzkunde 1, 1889, p. 91) — leaves 8-12 cm. long, rachis and light green leaflets with scattered, short hairs. A similar small-leaved form cultivated and distributed by one nursery under the names *Fr. taunca* and *Fr. chinensis*.

MINOR (L. Dippel, Handbuch der Laubholzkunde 1, 1889, p. 94) — as *Fraxinus parvifolia minor*, with fine sometimes ascending, sometimes almost horizontal spreading or somewhat inclined branches, dark brown-red twigs, 4 to 7-lobed leaves and small, oval, finely serrate leaflets.

MONOPHYLLA (L. Dippel, Handbuch der Laubholzkunde 1, 1889, p. 86-87) — as *F. tamariscifolia monophylla*; of seedling origin, leaves oval to broadly lanceolate, often with one or two lobes, or three fold; irregularly and coarsely serrate. Leaves very similar to *F. excelsior* 'Diversifolia' (H. Scheller, Mitt. Deutsch. Dendr. Ges. 69: 49-162, 1977).

MORaine (Pepinieres Minier, Angers, France, Cat. Autumn 1974, p. 107, and perhaps earlier catalogs) — as *Fraxinus oxycarpa* 'Moraine'. May = *F. holotricha* 'Moraine'.

NANA (L. Dippel, Handbuch der Laubholzkunde 1, 1889, p. 97) — as *Fraxinus tamariscifolia nana*; dwarf, from the nursery of Simon-Louis (Metz, France), leaves 12-15 cm. long, with a brown-red petiole, leaflets oval, serrate.


PALLIDA (H. Jager and L. Beissner, Die Ziergeholze, Ed. 3, Wageningen, 1972, p. 386) — listed as a cultivar with *F. australis* Gay as synonymous. May = *F. angustifolia*.

PANICULATA (K. Koch, Dendrologie 2, 1872, p. 245) — as *Fr. paniculata*, a name found in the garden for *Fr. rostrata*. = ROSTRATA.


PENDULA (L. Dippel, Handbuch der Laubholzkunde 1, 1889, p. 86) — as *F. tamariscifolia pendula*; of seedling origin, branches and twigs hanging down in short, tight, arches.

PYRAMIDALIS (L. Dippel, Handbuch der Laubholzkunde 1, 1889, p. 91) — compact growth and larger pinnules than the species; since it originated in North Africa, it is very sensitive to winter cold.

RAYWOOD (R.C. Notcutt Nurs. Ltd., Woodbridge, Suffolk, England, Nursery Stock Cat., Fall 1933-Spring 1934, p. 32, and perhaps earlier catalogs) — as *Fraxinus oxycarpa*, Raywood variety; of strong, vigorous, upright growth, foliage similar to the Manna or Flowering Ash but leaves have a claret coloured hue in autumn. The use of "variety" in a cultivar name is invalid according to the Code (1). Selected in Adelaide, Australia in the late 1920's by Professor Gardiner of Cambridge University, England, who gave scion wood to R.C. Notcutt of Notcutts Nurseries, Ltd. In 1931 this ash was presented an award of merit by the British Royal Horticultural Society. The Saratoga Horticultural Foundation, Saratoga, California, introduced 'Raywood' to the United States in 1964; a similar award of merit was granted by the California Horticultural Society (W.R. Hildreth, California Horticultural Journal 34(1): 37-38, 1973).
RAYWOODII — According to W.J. Bean, Trees and Shrubs Hardy in the British Isles, Ed. 8, Vol. II, 1973, p. 217, the cultivar 'Raywood' was put into commerce by Notcutt Nurseries under the name F. excelsior raywoodii; but we have found no evidence of this designation. = RAYWOOD.

RAYWOOD VARIETY = RAYWOOD

ROSTRATA (K. Koch, Dendrologie 2, 1872, p. 245) — as Fr. rostrata Gussone (pl. rar. 374, tab. 63); leaves elliptical and dark, fruit acuminated at both ends.


STIPULATA (L. Dippel, Handbuch der Laubholzkunde 1, 1889, p. 89) — as Fraxinus oxycarpa stipulata with Fr. oxyphylla subintegra Boiss. as a synonym; leaflet sharply acuminate towards the apex, base serrate, glabrous, veins prominent on lower surface; low-growing shrub.

STRIATA (K. Koch, Dendrologie 2, 1872, p. 274) — as Fr. striata (Bosc.) May = F. angustifolia.

SUBINTEGRA (Th. Wenzig, Bot. Jahrb., Vol. 4, 1883, p. 175) — as Fr. oxycarpa subintegra, with Fr. oxyphylla subintegra Boiss. However, 'Acuminata' later was used in the sense of a cultivar name in L. Beissner, E. Schelle, and H. Zabel, Handbuch der Laubholz-Benennung, Berlin, 1903, p. 409; without description.


TAURICA (L. Dippel, Handbuch der Laubholzkunde 1, 1889, p. 90) — as Fr. oxy. taurica; leaves almost invariably in whorls of 3 and the lanceolate to oval leaflets drawn out to a long point.

WOLLASTONII — According to W.J. Bean, Trees and Shrubs Hardy in the British Isles, Ed. 8, Vol. II, 1973, p. 217, a tree of 'Raywood' was presented to the Royal Botanic Gardens, Kew, by Notcutt Nurseries. In 1928 the 'Raywood' was put into commerce by Notcutt Nurseries under the name F. excelsior wollastonii, even though the plant obviously belonged to F. oxycarpa. It is interesting that although several authors have referred to plants of 'Raywood' and 'Wollastonii' being sold as cultivars of F. excelsior, we could find no indication of this improper nomenclature in the catalogs of Notcutt Nurseries. Other authors and nurseries have used the name 'Wollastonii', probably to refer to plants propagated from the Kew tree bearing this name, but we (and others) consider that 'Wollastonii' = RAYWOOD.

Fraxinus excelsior

ACUMINATA (K. Koch, Dendrologie 2, 1872, p. 243) — as Fr. acuminata, a form found in the garden with numerous firm, hairless, lanceolate leaves, usually with the "false" name Fr. acuminata. However, 'Acuminata' later was used in the sense of a cultivar name in L. Beissner, E. Schelle, and H. Zabel, Handbuch der Laubholz-Benennung, Berlin, 1903, p. 409; without description.

ADSCENDENS (K. Koch, Dendrologie 2, 1872, p. 242) — as Fr. adscendens Hort., with ascending branches.


ALTENA = ALTHENA.

ALTHENA (G. Krussmann, Handbuch der Laubgeholze, Berlin, 1977, vol. 2, p. 89) — crown moderately broad, conical; selected about 1943 by the Netherlands State Forest Administration in a street planting between Steenwijk and Nieuwendoorn. Also in Boomkwekerij Udenhout (Nurs.) Cat, October, 1977, p. 34 with synonym of 'Monarch', no. 17'.

AMARA (K. Koch, Dendrologie 2, 1872, p. 244) — leaves somewhat narrow with brownish wool along the midrib beneath as with F. oxycarpa; Koch had not seen the flowers or fruit and stated it might belong to F. oxycarpa rather than F. excelsior.

AMARISSIMA (J. C. Loudon, Arboretum et Fruiticetum Britannicum, London, 1838, p. 1246, 1247) — as F. amarissima belonging to F. excelsior var. parvifolia. Also in the Royal Gardens, Kew Hand-list of Trees and Shrubs Grown in Arboretum, 1896, Part II, p. 81, as F. excelsior var. amarissima; both without description.


ARGENTEA (G. L. M. Dumont-Courset, Le Botaniste Cultivateur, I, Paris, 1802, p. 711) — as F. argentea, a variety of F. excelsior; foliage variegated white, leaves so variegated they are often entirely white. A. Lingelsheim, in A. Engler, Das Pflanzenreich IV. 243 I, 1920, p. 51, erroneously considered both the white-spotted and the white-margined 'Argenteo-Variegata' selections under this name.

ASPLENIOFILA (E. Petzold and G. Kirchner, Arboretum Muscaviense, Gotha, 1864, p. 500) — light green foliage of very narrow, linear, pendent leaflets.


ATRA (K. Koch, Dendrologie 2, 1872, p. 241) — a name used in the garden for ATROVIRENS or CRISPA.

ATROVIRENS (C.H. Persoon, Synopsis Plantarum 2, 1807, p. 605) as F. nana * atrovirens. = CRISPA.

ATROVIRENS CORIACEA (A. Wesmael, Bull. Soc. Roy. Bot. Belg. 31: 69-117, 1892) — in a list of cultivars under the general description of branches erect, leaves green, but with no further description; ascribed to Desfontaines.

ATROVIRENS NANA (Royal Botanic Gardens, Kew Hand-list of Trees and Shrubs, Ed. 2, 1902, p. 537) — as var. atrovirens nana. May = CRISPA.


AUREA PENDULA (J.C. Loudon, Arboretum et Fruticetum Britannicum, London, 1838, p. 1217) — bark yellow, branches as pendulous and of as vigorous growth as those of 'Pendula.'


BERLIN (L. Beissner, E. Schelle, and H. Zabel, Handbuch der Laubholz-Benennung, Berlin, 1903, p. 410) as folius aureis, without description. Described in Simon-Louis Freres, Matz, France, Fall 1908-Spring 1909 Cat., p. 39, and perhaps in earlier catalogs; leaves golden, with grand effect in spring. Proper orthography would require change from folius aureis to 'Aurea,' but that name had already been used for a plant with yellow bark, thus we have applied a new name to this cultivar, and validated it here for the first time.


COARCTATA (C. de Vos, Handboek tot de Boomen, Heesters en Conifeeren, Ed. 2, Amsterdam, 1887, p. 76) — leaves cupped as in 'Crisspa,' introduced to the nursery trade by C. de Vos; but with weak growth.


CONCAVIFOLIA VARIEGATA (L. Beissner, E. Schelle, and H. Zabel, Handbuch der Laubholz-Benennung, Berlin, 1903, p. 410) — without description. First listed by K. Koch, Dendrologie 2, 1872, p. 244 as concavefolia fol. var. and described as a variegated leaf form of F. excelsior 'Atrovirens.' Later described as concavefolia fol. varieg. in H. Jager and L. Beissner, Die Ziergeholze, Ed. 3, Weimar, 1889, p. 161; with spoon-shaped, beautifully variegated leaves (however only on the summer growth) and variegated, striated twigs.

CORIACEA (K. Koch, Dendrologie 2, 1872, p. 241) — as Fr. coriacea, a name used in the garden for ATROVIRENS or CRISPA.


CRISPA FOEMINA (A. Lavallee, Arb. Segrezianum, Paris, 1877, p. 163) — as F. crispa foemina Hort., a synonym for "var. atrovirens." = CRISPA.

CRISPA MASCUCLA (A. Lavallee, Arb. Segrezianum, Paris, 1877, p. 163) — as F. crispa macula Hort., a synonym for "var. atrovirens." = CRISPA.


CROATICA — name found in records of Plant Sciences Data Center of the American Horticultural Society. Two plants at the Morton Arboretum, Lisle, Illinois; source given as Botanic Garden of the Univ. of Copenhagen, Denmark.
CUCULLATA (K. Koch, Dendrologie 2, 1872, p. 244-245) — raised from seed "a few years ago" by the brothers Baltet (Nurs.) in Troyes, France; the trunk branches little, the branches remain short, so that the tree resembles the dwarf forms, especially "Atrovirens," with compact, short stalked leaves, whose dark leaflets curl upward all around the margin. Put into commerce in Britian by Lee of Hammersmith in 1867, according to W.J. Bean, Trees and Shrubs Hardy in the British Isles, Ed. 8, vol. II, 1973, p. 216.

CURLYLEAF (H.P. Kelsey and W.A. Dayton, Standardized Plant Names, 1942, p. 232) — intended as a name to replace ATROVIRENS, CRISPA and CUCULLATA.

CUTLEAF (H.P. Kelsey and W.A. Dayton, Standardized Plant Names, 1942, p. 232) = ASPLENIIFOLIA.


DIVERSIFOLIA (W. Aiton, Hortus Kewensis, London, 1789, vol. III, p. 445) — leaves entire, 3-lobed, in threes; Various-leaf'ed Ash. Described in more detail by H. Scheller, Mitt. Deutsch. Dendr. Ges. 69: 49-162, Illus. p. 139, 1977; tree with narrow-oval crown, leaves 14-18 cm. long, mostly consisting of an enlarged terminal leaflet only, but often with a small pair (of leaflets) beneath or with only one. Since open-pollinated seedlings of this selection will possess various leaf types similar to the parent, many trees now called 'Diversifolia' are probably not the original cultivar, but rather segregates from open pollination of the original.

DIVERSIFOLIA LANCINIATA (W.J. Bean, Trees and Shrubs Hardy in the British Isles, Ed. 8, vol. II, 1973, p. 216) — a cut-leaved variant of 'Diversifolia.' May = SIMPLICIFOLIA LANCINIATA.


DOORENBOS (B.K. Boom, Nederl. Dendr. Ver. 20: 37-120, 1954-1955) — a number of ashes on the estate Over-voorde near Den Haag were cut down in 1942 for ski manufacture. All 22 wood specimens were kept separate and given numbers. The wood quality was determined and no. 5 was found to be of the best quality in combination with the best growth as a young plant (propagated presumable from sprouts of the felled tree). This tree was known for years as 'Dooorenbos no. 5' but shortened to 'Doorenbos' since only one tree from this series is in cultivation. Named for S.G.A. Doorenbos, a horticulturist of Den Haag, The Netherlands. Probably the only cultivar selected for its wood quality rather than growth form or leaf characteristics.

DWARF (H.P. Kelsey and W.A. Dayton, Standardized Plant Names, 1942, p. 232) — intended as a name to replace GLOBOSA, NANA, and POLEMONIFOLIA.

EDENTATA FOL. VAR. (K. Koch, Dendrologie 2, 1872, p. 244) — a weak growing form with small, almost entire, but white bordered leaves; if it belongs here (with F. ex- celsior) and not with a more southern type, Koch was not able to distinguish it. Probably first described in E. Petzold and G. Kirchner, Arboretum Muscaviense, Gotha, 1864, p. 499, as F. edentata folis variegatis Hort.


EUREKA (Nederlandse Staatscourant No. 90, May 10, 1950, p. 5) — thus entered in the Central Register of Plant Varieties, without description — although a description could be obtained (upon payment) from the Board for Breeders Rights. According to B.K. Boom, Nederl. Dendr. Ver. 20: 37-120, 1954-1955, this selection was found in 1947 by Van der Have (Nurs.); basically female, upright trunk and a regular crown.

EXONIENSIS (E. Petzold and G. Kirchner, Arboretum Muscaviense, Gotha, 1864, p. 500) — as F. exoniensis Hort. = ASPLENIIFOLIA.

EXPANSA (K. Koch, Dendrologie 2, 1872, p. 243) = COR— IARIAEFOlia; not a cultivar.

FASTIGIATA (H. Jager and L. Beissner, Die Ziergeholze, Ed. 3, Weimar, 1889, p. 161) = SPECTABILIS.


FOLIIS ARGENTEA (F. angustifolia, Nursery Trade List Fall 1896-Spring 1897, p. 91, and perhaps in earlier catalogs) = ARGENTEAE.

FOLIIS ARGENTEO-VARIEGATA (Barbier Brothers & Son, Orleans, France, Nursery Trade List Fall 1896-Spring 1897, p. 91, and perhaps in earlier catalogs) = ARGENTEAO-VARIEGATA.

FOLIIS ARGENTEO-VARIEGATUS (Barbier Brothers & Son, Orleans, France, Nursery Trade List Fall 1896-Spring 1897, p. 91, and perhaps in earlier catalogs) = ARGENTEAE.

FOLIIS ARGENTEO-VARIEGATA (Barbier Brothers & Son, Orleans, France, Nursery Trade List Fall 1896-Spring 1897, p. 91, and perhaps in earlier catalogs) = ARGENTEAO-VARIEGATA.

HESSEI (Nederlandse Staatscourant No. 32, February 14, 1968) — thus entered in the Central Register of Plant Varieties, without description — although a description could be obtained (upon payment) from the Board for Breeders Rights.


GLOBOSA (H. Jager and L. Beissner, Die Ziergeholze, Weimar, 1889, p. 161) — globe ash. This is probably the plant Scheller in Mitt. Deutsch. Dendr. Ges. 69: 49-162, 1977 denoted as “Nana II” and described as often grafted high and reaching 5-6 m., with leaves 10-15 cm. long which have mostly 11 distantly placed leaflets. (Also see UMBRACULIFERUM).

GLOBOSA DE DEEGEN (Barbier Brothers & Son, Orleans, France, Nursery Trade List, Fall 1896-Spring 1897, p. 91, and perhaps earlier catalogs) — as Fraxinus globe. Probably = POLEMONIFOLIA.

GLOBOSA DE DEEGENI (Simon-Louis Freres (Nurs.), Metz, France, Cat. Fall 1908-Spring 1909, p. 39, and perhaps earlier catalogs) — as Fraxinus globosa de Deegen. Probably = GLOBOSA.

GLOBOSUM — probably = GLOBOSA.

GLOMERATA (E. Petzold and G. Kirchner, Arboretum Muscaviense, Gotha, 1864, p. 509) — as F. polemoniifolia (= F. excelsior glomerata Hortic.), which they considered = to “nana”. K. Koch, Dendrologie 2, 1872, p. 241, stated the name Fr. glomerata is found in the garden for ‘Atroviirens’ or ‘Crispa’. The Simon-Louis Freres (Nurs.), Metz, France, Cat. Fall 1908-Spring 1909, p. 39, listing, with description, would suggest it = CRISPA.


GOLDEN (H.P. Kelsey and W.A. Dayton, Standardized Plant Names, 1942, p. 232) = AUREA.

GOLDEN GLOW (Duncan & Davies Ltd., New Plymouth, New Zealand, Catalogue and Cultural Guide, 1965, p. 107) — noted for its spectacular display of butter-yellow autumn foliage; hardy street, avenue, or specimen tree.

GOLDEN WEEPING (H.P. Kelsey and W.A. Dayton, Standarized Plant Names, 1942, p. 232) = AUREA PENDULA.

HESSEI (H.P. Kelsey and W.A. Dayton, Standardized Plant Names, 1942, p. 232) = HESSEI.

HESSEI (H.A. Hesse (Nurs.), Germany, Cat. Fall 1933-Spring 1934, p. 69) — stately single-leaved ash with a large poplar-like leaf and very vigorous growth.

HETEROHYLLA (M. Vahl, Enumeratio Plantarum, 1, 1804-1805, p. 53, original not seen) = DIVERSIFOLIA.


HETEROHYLLA PENDULA (B.K. Boom, Nederl. Dendrol. Ver. 20: 37-120, 1954-1955) — origin unknown but introduced to the nursery trade by Spaeth in 1898 (Cat. No. 102, p. 91); a weeping selection with foliage like ‘Diversifolia’.

HETEROHYLLA VARIEGATA (J.C. Loudon, Arboretum et Fruticetum Britannicum, London, 1838, p. 1229) — a sport discovered by Captain Moore, Egplantine, Down County, Ireland in 1830, on a 15-year-old tree showing one shoot with variegated leaves, propagated by grafting; shrub-like habit.


HISSEL — Name found in records of Plant Sciences Data Center of the American Horticultural Society. Plant received at Saratoga Horticultural Foundation, Saratoga, California in 1975 from Cole Nurseries, Circleville, Ohio, but not listed in their catalogs.


HUMILIS (K. Koch, Dendrologie 2, 1872, p. 241) — as Fr. humilis, = POLEMONIFOLIA.


INTEGRIFOLIA (K. Koch, Dendrologie 2, 1872, p. 243) — as Fr. integrifolia, name used in the garden for DIVER-SIFOLIA.


JASPIDEA (G.L.M. DuMont-Courset, Le Botaniste Cultivateur, I, Paris, 1802, p. 710-711) — as F. jaspidea, stigmas and branches have yellowish, longitudinal streaking.

JASPIDEA PENDULA (Anon., Gard. Chron. No. 43: 1432, 1873) — as Fraxinus jaspidea pendula, Shining orange-brown shoots and elegant green foliage, the stalks of the latter are pale yellow.


KINCAIRNIAE (J.C. Loudon, Arboretum et Fruticetum Britannicum, London, 1838, p. 1217) — “Has the spray alternately pendulous, and rigidly upright”, original tree on the estate of Mungo Murray, Esq., in Kincairney, in Perthshire, Scotland; first brought into notice by Mr. Gorrie in 1833, and put into commerce by Messrs. Dickson and Turnbull of Perth.

LEUCOCARPA (L. Beissner, Mitt. Deutsch. Dendr. Ges. 16: 96-101, 1907) — young fruit variegated with white or mostly all white, tree discovered by L.A. Springer, Haarlem, The Netherlands, in a private park near Arnhem; although the foliage is mostly green without variegation, a few isolated variegated leaves were present.

LINEARIS (E. Petzold and G. Kirchner, Arboretum Muscaviense, Gotha, 1864, p. 501) — very similar to ‘Aspleniifolia’, but the leaf stalks and leaflets are not pendent but remain spread apart.


LONGIBOTRYS (Royal Botanic Gardens, Kew Hand-list of Trees and Shrubs, Ed. 2, 1902, p. 539) — as var. longibotrys, without description.


M 17 (Pierre Lombarts Nurs., Zundert, The Netherlands, Cat. 1964-1965, p. 58, and perhaps in earlier catalogs) — name invalid because not in proper format according to the Code (1). May = ALTHENA.

MIXTA (H. Jager and L. Beissner, Die Zierengeholze, Ed. 3, Weimar, 1889, p. 161) — delicate twigs, with narrow, long, leaves, very distant from one another, whereby the foliation becomes more open.


MONOPHYLLA (G.L.M. Du Mont-Courset, Le Botaniste Cultivateur, I, Paris, 1802, p. 711) — as F. monophylla. = DIVERSIFOLIA.


MONOPHYLLA CORDATA (L. Beissner, Mitt. Deutsch. Dendr. Ges. 20: 246-250, 1911) — a seedling of ‘Leucocarpa’, very young at the time it was described, but with single, luxuriant deeply heart-shaped, sharply serrate leaves.


MONOPHYLLA LACINIATA (L. Beissner, E. Schelle, and H. Zabel, Handbuch der Laubholz-Benennung, Berlin, 1903, p. 409) = SIMPLICIFOLIA LACINIATA.


MONSTROSA (K. Koch, Dendrologie 2, 1872, p. 241) — most branches fasciated.

MYRTIFOLIA — a name used in various sources mistakenly for various cultivars; may = GLOBOSA, POLEMONIIFOLIA, or EROSA.

NANA (C.H. Persoon, Synopsis Plantarum 2, 1807, p. 605) — as F. nana (appendiculata). According to H. Scheller in Mitt. Deutsch. Dendr. Ges. 69: 49-162, 1977, there are two different plants both given the name “Nana” after having been named previously. This “Nana” = POLEMONIIFOLIA: see also GLOBOSA.

NANA I (H. Scheller, Mitt. Deutsch. Dendr. Ges. 69: 49-162, 1977) — we consider this equivalent to POLEMONIIFOLIA.

NANA II (H. Scheller, Mitt. Deutsch. Dendr. Ges. 69: 49-162, 1977) — we consider this equivalent to GLOBOSA.


NOBILIS (A. Lavallee, Arb. Segrezianum, Paris, 1877, p. 164) = VIRIDIS = ASPLENIIFOLIA.

NORTHLAND — Name found in records of the Plant Sciences Data Center of the American Horticultural Society. Two plants at Morton Arboretum, Lisle, Illinois, obtained from J.C. McDaniel, Univ. of Illinois, in 1970. Perhaps never introduced to nursery trade.

OBLIQUA (Royal Gardens, Kew Hand-list of Trees and Shrubs Grown in Arboretum, 1896, Part II, p. 83) — as
— According to G. Krussmann, *PENDULIFOLIA PURPUREA* (= Fr. *oxyacanthifolia*, name used in the garden for *CRISPA*).

OXYACANTHIFOLIA (K. Koch, *Dendrologie* 2, 1872, p. 241) — as Fr. *oxyacanthifolia*, name used in the garden for *CRISPA*.


PANICULATA (K. Koch, *Dendrologie* 2, 1872, p. 244) = **PUNITCATA**.

PARVIFOLIA (J.C. Loudon, *Arboretum et Fruticetum Britannicum*, London, 1838, p. 1229-1230) — as F. (E). *parvifolia* Willd.; trees with roundish-leaflets in Messrs. Lodges nursery rows and elsewhere designated as Fr. *parvifolia* Willd.; thought to belong to F. *excelsior* as a leaf form variation. According to H. Scheller, *Mitt. Deutsch. Dendr. Ges.* 69: 49-162, 1977, *F. parvifolia* Lam. (or Willd.) probably = *F. angustifolia* Vahl. L. Dippel, *Handbuch der Laubholzkunde* 1, 1899, p. 83-84, also noted that plants known as *F. parvifolia* Willd. were not necessarily the same plant that Willdenow described (in *Berlinerische Baumzucht*, 1796, p. 124), and belonged instead to *F. excelsior*. Therefore, *PARVIFOLIA* has been taken as a valid cultivar name for the plant described by L. Dippel, I.c.: leaves with 4-7 paired leaflets, sessile or with very short stalks, oval, oval-lanceolate to elliptical, 4-7 cm. long and 1.5-3 cm. wide.


PLATYCARPA (K. Koch, *Dendrologie* 2, 1872, p. 241) — as Fr. *platycarpa* (not Mchx.), name used by nurseries. Koch was unable to distinguish from *VERRUCOSA* and *FUNGOSA*.

POLEMONIFOLIA (J. Poiret in *N. Duhamel, Nouv. Duh.* IV, 1775, p. 68, original not seen) — as *F. polemoniifolia*. According to H. Scheller, *Mitt. Deutsch. Dendr. Ges.* 69: 49-162, 1977, this is the plant he denoted as “Nana I”, and described as a small shrub from 2-3 m. tall with leaves 3-8 cm. long, which have 11-15 very crowded leaflets. We have made *POLEMONIFOLIA* the valid epithet since it has priority over various later re-namings to “Nana”.


PUMILA (K. Koch, *Dendrologie* 2, 1872, p. 241) — as *F. pumila* = *POLEMONIFOLIA*.

PUNCTATA (E. Petzold and G. Kirchner, *Arboretum Muscaviense*, Gotha, 1864, p. 501) — as foliis punctatis; leaflets long-lanceolate, serrate, dark green with numerous yellow dots.

PURPURASCENS (J.C. Loudon, *Arboretum et Fruticetum Britannicum*, London, 1838, p. 1217) — the purple-barked ash, found in a bed of seedlings by M. Descemet, and grown in the collection under his care at Odessa.


RANCHO (E.H. Scanlon & Assoc., Olmsted Falls, Ohio, Wholesale List No. 14, Fall 1962-Spring 1963, p. 35) — a small round headed tree, develops rapidly and will not exceed 25 to 30 feet under street conditions; formerly known as *Fraxinus quadrangulata globosa* - Globeheaded Blue Ash. First listed in E.H. Scanlon & Assoc., Descriptive and Use List of Tailored Trees, No. 11, Fall 1959-Spring 1960, p. 26. Tree was renamed after its identity came into question and to avoid confusion with the “globosa form of excelsior”, p. 34 of the same catalog.

RETICULATA (K. Koch, Dendrologie 2, 1872, p. 243) — may = VERTICILLATA.

RUFA (K. Koch, Dendrologie 2, 1872, p. 243) — as *Fr. rufa*, name used in the garden for ‘Diversifolia’. Also listed as a cultivar by Pierre Lombarts, Zundert, The Netherlands, Cat. 1957-1958 (and perhaps earlier) — growth steeper and leaves darker green than the common ash.

SALICIFOLIA (E. Petzold and G. Kirchner, Arboretum Muscaviense, Gotha, 1864, p. 501) = LINEARIS.

SAMBUCIFOLIA (K. Koch, Dendrologie 2, 1872, p. 243) — Koch received a plant with numerous leaflets under the false name *Fr. sambucifolia*. This is probably not *F. sambucifolia* Lam. (= *F. nigra* Marshall) since the description “numerous leaflets” would not seem to suggest this. Therefore ‘Sambucifolia’ has been taken as a valid cultivar name for this plant described by Koch.

SAMBUCIFOLIA COARCTATA (K. Koch, Dendrologie 2, 1872, p. 244) — the lowest leaflets are at the base of the rachis and the others follow closely; name used in the nursery trade.

SCOLOPENDRIFOLIA (K. Koch, Dendrologie 2, 1872, p. 241) — as *Fr. scolopendrifolia*, name used in the garden for ‘Atrovirens’, ‘Crispa’, or ‘Asplenifolia’ (p. 244). Also listed as a cultivar in W.J. Bean, Trees and Shrubs Hardy in the British Isles, Ed. 8, vol. II, 1972, p. 217, leaflets narrow, often curled and deformed; an example at Kew received from Spath’s nurseries in 1900, similar to ‘Erosa’.

SCOLOPENDRIFOLIA (L. Beissner, E. Schelle, and H. Zabel, Handbuch der Laubholz-Benennung, Berlin, 1903, p. 409) = SCOLOPENDRIFOLIA.

SCOLOPENDRIUM (K. Koch, Dendrologie 2, 1872, p. 241) — as *Fr. scolopendrium*, name used in the garden for ATROVIRENS or CRISPA.

SIMPLICIFOLIA (K.L. Wildenow, Species Plantarum, 1806, vol. IV, Part II, p. 1098-1099) — as *F. simplicifolia*. = DIVERSIFOLIA.

SIMPLICIFOLIA LACINIATA (E. Petzold and G. Kirchner, Arboretum Muscaviense, Gotha, 1864, p. 503) — arising from seed of ‘Diversifolia’, of compact somewhat weak growth; leaves small, acuminate, irregularly bordered, deeply toothed, almost lacerated.

SPECTABILIS (K. Koch, Dendrologie 2, 1872, p. 242) — as *Fr. spectabilis*, a “recent” introduction to the trade; branches stand off at a slight angle, so that the crown maintains a pyramidal appearance.


THEOPHRASTI (L. Dippel, Handbuch der Laubholzkunde 1, 1889, p. 82) — as *Fr. theophrasti*, a synonym for one of the “Nana” selections.

TORTUOSA (L. Dippel, Handbuch der Laubholzkunde 1, 1889, p. 84) — as *Fr. tortuosa*. May = MONSTROSA.


TOTA AUREA (Barbier & Co., Orleans, France, Nursery Trade List, Fall 1899-Spring 1900, p. 99) — nice golden foliage.

TRANSOII (A. Wesmæl, Bull. Soc. Roy. Bot. Belg. 31: 69-117, 1892) — as ‘Transoni’; in a list of cultivars under the general description of branches erect, leaves green, but with no further description. In W.J. Bean, Trees and Shrubs Hardy in the British Isles, Ed. 8, vol. II, 1973, p. 217, as “Transoni”; although the tree no longer exists in Kew, it was described in earlier editions as having yellow leaves; presumably raised or distributed by Transon’s Nursery in France.


VARIEGATA (Pierre Lombarts Nurs., Zundert, The Netherlands, Cat. 1964-1965, p. 59) — weeping, leaves white-spotted to marbled, very rare. Not known whether this may be the same as PENDULA VARIEGATA or other older cultivars, but ‘Variegata’ is invalid because published in Latin form after January 1, 1959.


VERRUCOSA PENDULA (J.C. Loudon, Arboretum et Fruticetum Britannicum, London, 1838, p. 1218) — a
sixteen-year-old tree in the Horticultural Society's Garden was, in 1835, 10 feet high. According to A. Lingelsheim, in A. Engler, Das Pflanzenreich, IV. 243 l, 1920, p. 51, branches corky, warty, pendulous.


**VIRIDIS** (A. Lavallee, Arb. Segrezianum, Paris, 1877, p. 164) = ASPLENIIFOLIA.

**VIRIDIS NOBILIS** (E. Petzold and G. Kirchner, Arboretum VIRIDIS (A. Lavallee, Arb. Segrezianum, Paris, 1877, p. 164) — as Fr. viridis Nobilis (K. Koch, Dendrologie 2, 1872, p. 243) — as a name for both PENDULA and WENTWORTH.

**WENTWORTH** (K. Koch, Dendrologie 2, 1872, p. 242) — a pendulous ash carried by Simon-Louis Freres, Metz, France; branches begin spreading horizontally, then finally slope to the ground. Koch wondered if this name was a corrupt spelling of Hopworth, the name of the vicar of the parish in Gamlingay (at the time J.C. Loudon wrote Arboretum et Fruticetum Britannicum, 1838) in whose field the original 'Pendula' still existed. This is probably not a misspelling as this appears to be distinct from 'Pendula'.

**WENTWORTHI PENDULA** (H. Jager and L. Beissner, Die Ziergehölze, Ed. 3, Weimar, 1889, p. 161) = WENTWORTH.


**Fraxinus holotricha**

**MORAINE** (The Siebenthaler Co., Dayton, Ohio, Cat. No. 174, Fall 1957, p. 13) — without description. Plant Patent No. 1768, November 4, 1958. Medium sized at maturity (about 40 ft.) upright, oval-shaped crown; foliage persists later into autumn than most ash trees; scant seed production, and adaptable to a wide range of soil conditions.

**Fraxinus ornus**


**ANITA** (T. van Eeten, Dendroflora Nr. 18, 1981, p. 15) — similar to 'Arie Peters'; but branches more upright, slender pyramidal growth habit; a seedling selection from seed brought from Italy to The Netherlands by the author, and a subsequent introduction by the N.A.K.B. (Nederlandse Algemene Keuringsdienst voor Boomwekerij - the General Netherlands Service for the Inspection of Trees). Named for Anita van Eeten-Christiani of Nijmegen, The Netherlands.

**ARIE PETERS** (T. van Eeten, Dendroflora Nr. 18, 1981, p. 15) — broad oval crown, leaves 18-24 cm. long, upper surface of leaflet dark green, lower surface lighter; flowers equally distributed over the tree, May-June, with some blooming later and lasting into September; a seedling selection (a sibling of 'Anita') and subsequent introduction of the N.A.K.B.; named for Arie Peters of Ophensden, The Netherlands.


**GLOBOSA** (H.A. Hesse (Nurs.), Germany, Cat. Fall 1933-Spring 1934, p. 69) — globe flowering ash.

**NANA** (A. Lavallee, Arb. Segrezianum, Paris, 1877, p. 162) — without description, but with Ornus nana Hort. as a synonym.

**ROTTERDAM** (H.J. Grootendorst, Dendroflora Nr. 3, 1966, p. 28-36) — sturdy small tree with ascending branches, forming a broadly pyramidal crown, dark green leaves, free-flowering in May, male; selected by the City Parks Department in Rotterdam, The Netherlands.


**SPECIOSA** (K. Koch, Dendrologie 2, 1872, p. 236) — as Fr. speciosa, seen in some nurseries; only the lower pinules roundish, the others very narrow and elongate, so that they appear almost linear.

**STRIATA** (J.C. Loudon, Arboretum et Fruticetum Britannicum, London, 1838, p. 1248) — as Ornus striata, with striped bark; incorrectly ascribed as native to North America, and introduced to Europe in 1818. Not seen by Loudon.

THEOPHRASTI (K. Koch, Dendrologie 2, 1872, p. 236) — as *Fr. Theophrasti* = *F. excelsior 'Theophrasti*', a synonym for one of the "Nana" selections.


Literature Cited


Horticulturist and Research Geneticist, respectively
U.S. National Arboretum
Agricultural Research Service
U.S. Department of Agriculture
Washington, D.C. 20002

ABSTRACTS


The experiments reported here show that trees can be cured of Dutch elm disease if sufficient quantities of TBZ are injected while the disease is restricted to a very small part of the crown. It should be noted that the treatment cannot be expected to work on more severely affected trees, or trees subject to root graft transmission or on trees showing carry-over infections from the previous year. These results are similar to those obtained by Stennes in Minnesota using TBZ at the same rate. Phytotoxicity damage to the foliage of treated trees varied considerably from year to year. It was the most severe on pollarded trees with small crowns. Reduction should be made in the volume injected in such trees to compensate for the smaller crown sizes. Although the appearance of symptoms of phytotoxicity can be alarming, trees recovered and generally regained full foliage the following summer.


Urban forest management and maintenance programs are not new. Many American cities have a basic urban forestry program. However, because of limited budgets, unfamiliar management requirements, and intangible contributions, most cities manage trees on a crisis basis. That is, the removal of trees when they fall, the trimming of trees in response to citizen complaints, and the planting of trees under duress by citizen groups. The objective of urban forest management in America is to elevate public tree care to a respectable level within the nation's communities. In so doing, trees can be managed more effectively and less costly than crisis management. What is urban forest management? Urban forest management is generally regarded as a systematic approach to the management of municipal trees for current and long-range planting, trimming, maintenance, and removal needs. The need for systematic management of trees on city streets, city parks, and other public areas is three-fold, involving aesthetics, safety, and efficiency.