CHECKLIST OF CULTIVATED GINKGO

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Even though it is not "probably the most esteemed street tree in this country" as stated by Li (3), Ginkgo biloba L. has proved to be a reasonably useful tree for planting in urban areas of the United States. Its reputation as a "trouble-free" tree is based more on the myth that this classical monotypic "living fossil" should have no pests than on valid scientific observation. While there are no dramatic defoliations, wilts, or blights that befall ginkgo, there must be reasons for the breakage of main trunks and premature tree death that have been observed.

Ginkgo is native to eastern China, most likely in an area of southern Anhui and northern Zhejiang provinces just north of the 30th parallel (3). Whether any truly "wild" trees have existed in the past 100 years is a matter of debate. It is, however, a fallacy that the preservation of the species was the result of its significance in the Buddhist religion (3).

Ginkgo was probably introduced to Japan more than a thousand years ago, and, in fact, the name "ginkgo" is of Japanese origin. The tree was introduced into Europe about 1730, to England in 1754, and to the United States, from England, in 1784.

Ginkgo is generally considered to be dioecious, with individual trees being either male or female. Monoecious trees, having flowers of both sexes, have been reported (5), and our own study of sex expression in ginkgo will be the subject of a separate paper. The production of fruit and viable seed by isolated "female" trees has also been noted (4).

The pulp of the fruit of ginkgo produces an odor, mainly from butyric acid, that may be considered disagreeable or obnoxious. Therefore, male cultivars have been selected for planting in Western countries. In the Orient, however, particularly in the People's Republic of China, the seed of the ginkgo is a prized food delicacy, and female cultivars have been selected for larger seed and abundant fruit production.

The translation of the Chinese name for ginkgo (yinxing) is "silver apricot" and the seeds are indeed edible. In China, the fruits are harvested by beating them down with a bamboo pole in October or November, when they have become brownish yellow. They are kept in a container or piled in some cool place outdoors until the pulp ferments. It is best to wear plastic or rubber gloves when handling the fruit at this stage, since the pulp contains a skin irritant not unlike that in poison ivy. The seeds are removed from the pulp by stirring or agitating in water and washing them clean of pulp. The cleaned seeds are what is sold in the market as food.

Ginkgo seeds must be cooked, boiled or roasted, before they are eaten. The outer seed coat is first cracked and removed and the thin paper-like inner layer can be peeled after a brief soaking in hot water. After peeling, the seed may be boiled for 10 or 15 minutes or roasted, with oil, in a pan. Ginkgo seeds are usually used in desserts, especially in sweet soups with Chinese dates (Zizyphus jujuba Mill.).

Maunsell Van Rensselaer, Director (1951-1966) of the Saratoga Horticultural Foundation, Saratoga, California, was a champion of ginkgo in the United States. Many of the cultivars in this checklist were only known from the test plots of that Foundation, although some plants did "escape" into arboreta, and many names were contained in a survey made by the American Horticultural Society. We are indebted to Mr. Barrie D. Coate, Director of Horticulture at the Foundation, for data on these cultivars. The Saratoga Horticultural Foundation does not propagate or sell any ginkgo cultivars at the present time.

The U.S. National Arboretum, as temporary International Registration Authority for unassigned genera of woody plants, has assumed the responsibility of preparing authoritative cultivar checklists of important landscape tree genera in accordance with the provisions of the International Code of Nomenclature for Cultivated Plants (1). Cultivars selected and grown for fruit production in the People's Republic of China are listed in a separate
section and, we believe, are published here for the first time in any language other than Chinese pictographs.

Although Ginkgo biloba L. is currently the accepted scientific name for this species, the English botanist J.E. Smith considered the name "uncouth and barbarous" and renamed it Salisburia adiantifolia in 1797. Some of the earliest ginkgo cultivars were selected and named under this botanical epithet.

It is of great interest that there are virtually no ginkgo cultivars presently in the nursery trade that exhibit well-formed open crowns with evenly spaced branches. Such trees do exist, and some nurseries have attempted their propagation. However, trees propagated from lateral branches or branch buds often continue to develop as branches rather than assume an upright habit. Until we can solve these propagation problems, we will not be able to utilize the best germplasm in this species.

As in previous checklists (6, and others), VALID CULTIVAR names are given in boldface capitals and INVALID CULTIVAR names in lightface capitals.


AUREA (J.N. Nelson, Pinaceae, 1866, p. 164) — as Pterophyllum Salisburiensis aurea, leaves golden-yellow.

AUREO-VARIEGATA (A. Seneclauze, Les Conifères, Paris, 1867, p. 81) — large leaves with broad yellow bands; referenced to C.S., which is probably Catalog Seneclauze. The 'Aureovariigeta' of J. Ohwi (Flora of Japan, Smithsonian Inst., Wash., D.C., 1965, p. 109, English translation edited by F.G. Meyer and E.H. Walker) is most likely a different cultivar, but that name is invalid because it duplicates the earlier name and is in Latin form after January 1, 1959.


BELL — Name found in records of the Plant Sciences Data Center of the American Horticultural Society. Original tree at the home of James Bell, Atherton, California and propagated under this name by the Saratoga Horticultural Foundation, Saratoga, California, until 1959, when the name 'Canopy' was assigned to it.

CANOPY — Name found in records of the Plant Sciences Data Center of the American Horticultural Society. Formerly known as 'Bell' and propagated by the Saratoga Horticultural Foundation, Saratoga, California. Trees growing at four major arboreta, but the cultivar has never been described or commercially available.

CLEVELAND — Name found in the records of the Plant Sciences Data Center of the American Horticultural Society. Propagated from a fastigiate tree in Cleveland, Ohio by the Saratoga Horticultural Foundation, Saratoga, California and tested under this name. Tree at Los Angeles State and County Arboretum, Arcadia, California, although the cultivar has not been described or commercially available.

CUTLEAF (H.P. Kelsey and W.A. Dayton, Standardized Plant Names, 1942, p. 274) = LACINIATA.


EPHYPYLLA (J. Ohwi, Flora of Japan, Smithsonian Inst., Wash., D.C., 1965, p. 109, English translation edited by F.G. Meyer and E.H. Walker) — no cultivars were given in the original 1953 Japanese version of Ohwi's work, but the extended English translation listed 'Ephypylla', which must be considered invalid because of the use of Latin form after 1959. Japanese equivalent given as OHATA-SUKI.

EL ABRA — Name found in the records of the Plant Sciences Data Center of the American Horticultural Society. Original tree on Sierra Street, San Jose, California and propagated and tested under this name by the Saratoga Horticultural Foundation, Saratoga, California. The cultivar has never been described or commercially available.


KEW — Name found in the records of the Plant Sciences Data Center of the American Horticultural Society. Propagated from a fastigiate male tree in the Royal Botanic Garden (Kew Gardens), England, by the Saratoga Horticultural Foundation, Saratoga, California, and tested under this name. The cultivar has never been described or commercially available.

LACINIATA (E.-A. Carriere, Rev. Horticole, 1854, p. 412) — leaves deeply laciniated, wavy at the margins. Raised by Reynier of Avignon (France) in 1840 and put into commerce by Seneclauze's nursery.


LARGELEAF (H.P. Kelsey and W.A. Dayton, Standardized Plant Names, 1942, p. 274) = 'Macrophylla' =
LACINIATA.
LONGIFOLIA (L. Henry, Rev. Horticole 11: 80-84, 1911) = LACINIATA.


MACROPHYLLA INCISA (L. Beissner, Handbuch der Nadelholzkunde, Ed. 1, 1891, p. 192) = LACINIATA.


MORaine — Name found in the records of the Plant Sciences Data Center of the American Horticultural Society. Plant obtained from The Siebenthaler Co., Dayton, Ohio and grown at the Saratoga Horticultural Foundation, Saratoga, California. Cultivar never commercially available.


OVERLOOK — Name found in the records of the Plant Sciences Data Center of the American Horticultural Society. Propagated from a tree selected by E.H. Scanlon, Olmsted Falls, Ohio, on Mt. Lookout Ave., Cleveland, Ohio by the Saratoga Horticultural Foundation, Saratoga, California and tested under this name. The cultivar has never been described or commercially available.


PENDULA (A. Van Geert Nurs., Belgium, Cat. 1862, p. 62) — branches pendulous.


PRINCETON GOLD — Name found in records of the Plant Sciences Data Center of the American Horticultural Society. Trees at the Morton Arboretum, Lisle, Illinois and Longwood Gardens, Kennett Square, Pennsylvania. A selection of Princeton Nurs., Princeton, New Jersey, as a male with a strong central leader and perfect regularity of branching habit. Plant Patent No. 2675, October 4, 1966. This cultivar was never advertised by Princeton Nurs. and was discontinued because of propagation difficulties.


ROBIN — Name found in records of Plant Sciences Data Center of the American Horticultural Society. Tree at Holden Arboretum, Mentor, Ohio obtained from Cole Nursery Co. in 1968. Male tree selected in southern Ohio as a most well-formed ginkgo, with crown characteristics similar to Tilia cordata. Propagated and evaluated under this cultivar name by Cole Nursery Co., Circleville, Ohio. Cultivar never commercially available.

ROOSEVELT — Name found in the records of the Plant Sciences Data Center of the American Horticultural Society. Propagated from a tree on Roosevelt Boulevard, Philadelphia, Pennsylvania, by the Saratoga Horticultural Foundation, Saratoga, California, and tested under this name. The cultivar has never been described or commercially available.


SANTA CRUZ (E.H. Scanlon & Assoc., Olmsted Falls, Ohio, advert., Trees Mag. 19(2): 2, 1959, illus.) — umbrella form, low and spreading, illustration same as for UMBRELLA.

SAN JOSE GOLD — Name found in the records of the Plant Sciences Data Center of the American Horticultural Society. Trees at Holden Arboretum, Mentor, Ohio, received from J. Clarke Nurs., San Jose, California, in 1989.


SENTRY (H.P. Kelsey and W.A. Dayton, Standardized Plant Names, 1942, p. 274) = FASTIGIATA. Name may also be mistakenly used for PRINCETON SENTRY or refer to a fastigate tree propagated and tested under the name "Sentry" by the Saratoga Horticultural Foundation, Saratoga, California.

and with a small apicula on the top of the fruit.

The cultivar names proposed by Tsen and others have been followed by subsequent authors. Pinyin. The authority for each cultivar name does, by transliteration into the Roman alphabet, i.e.,

shape ginkgo, with round fruit; (b) var. the group names for these varieties are very useful diagnoses were not provided, but the Chinese botanist to attempt a scientific classification of the various cultivated types of ginkgo. He proposed three botanical varieties, under which the cultivated types could be categorized: (a) var. typica, the Meihe-Yinxing group or plum-stone shaped ginkgo, with round fruit; (b) var. huana, the Fushon-Yinxing group or finger citron ginkgo, with elliptic or oblong fruit; and (c) var. apiculata, the Maling-Yinxing or horse’s-bell shaped ginkgo, with a fruit shape intermediate between the other two, and with a small apicula on the top of the fruit.

The Latin epithets for the botanical varieties erected by Tsen are invalid because Latin diagnoses were not provided, but the Chinese group names for these varieties are very useful and have been followed by subsequent authors. The cultivar names proposed by Tsen and others are hereby validated, according to the Code (1), by transliteration into the Roman alphabet, i.e., Pinyin. The authority for each cultivar name does, however, remain with the first published work.

Because of the very detailed descriptions for valid cultivars that exist in the Chinese literature, our descriptions in the listing that follows will be much abbreviated, or even limited to a translation of the cultivar name.

A. Meihe-Yinxing — plum-stone shaped ginkgo.

DAMEIHE — large plum fruit (7, 10, 11).

MIANHUAGUO — cotton fruit like; often with twin fruit (8, 10).

NANHUIWUXIN — Nanhui inembryonate; fruit without embryos (11).

SUANPANGUO — abacus-bead like (8, 10).

TONGZIGUO — tung-tree fruit like (8, 10).

XIMEIHE — small plum stone (7, 12).

YUANZHU — round beans. There is some question whether this is a collective name for several cultivars with round fruit. We are considering it a valid group name with the described variations probably derived from this cultivar; DAYUANZHU — large round beans.

XIAOYUANZHU — small round beans, YAPIGU-YUANZHU — duck’s buttocks (9, 11).

B. Fushon-Yinxing — finger citron shaped ginkgo.

CHANGBING-FUSHON — long petiole finger citron (7, 8, 10, 12).

DAFUSHON — large finger citron (9, 11).

DONGTINGHUANG — King of Donglingshan Mountain, fruit largest, 500-year-old tree is 16 meters tall (8, 9, 10, 11).

FUZI — Buddha’s finger (2, 11).

GANLAN-FUSHON — Chinese olive-like finger citron (8, 10).

JIAFUSHON — domestic finger citron (2, 8, 10) = DAFUZI, large Buddha’s finger.

JIANCHU — sharp pestle; poor quality (7).

JINGUO-FUSHON — golden-fruited finger citron (7, 8, 10, 12).

LUANGUO-FUSHON — ovate-fruited finger citron (7, 8, 10, 12).

XIAO-FUSHON — small finger citron (9, 11).

YUANDI-FUSHON — round-bottom finger citrus; superior type (7, 8, 11, 12).

ZAOZI-FUSHON — Chinese date-like finger citrus; name reported (8, 10) but without description.

C. Maling-Yinxing — horse’s-bell shaped ginkgo.

DAMALING — large horse’s bell (7, 10, 12).

LONGYAN — dragon’s eye (2, 11).

HUANGPIGUO — yellow peel fruit (8, 10).

QINGPIGUO — green peel fruit (8, 10).

XIMALING — small horse’s bell (7, 12).

ZHONGMALING — medium horse’s bell (7, 10, 12).

Literature Cited


3. Li, Hui-li. 1963. The origin and cultivation of shade and or-
ABSTRACT


Pine root-collar weevil is a relatively new pest problem on pines in Indiana. It can ultimately kill these plants. The larvae feed in the phloem tissue around the root collar, killing the cambium in the process. The tree is girdled at the ground line. Obscure scale has caused some problems on pin oak. This insect, which produces symptoms similar to iron chlorosis, is very difficult to see, often making control difficult. Bagworm attacks the foliage of both deciduous and evergreen trees and shrubs. The pest is so named, because the caterpillar spends its life inside a silken, spindle-shaped bag adorned with bits of twigs and leaves from the host plant. The young caterpillars immediately spin a bag while continuing to enlarge and grow. There is only one generation per year. Gypsy moth is a very serious pest that attacks a wide range of plants. Oaks suffer from gypsy moth attacks more than other species. Most deciduous trees can withstand one or two consecutive years of defoliation before severe decline or death occurs. Conifers usually die after one complete defoliation.