

The choice of urban species

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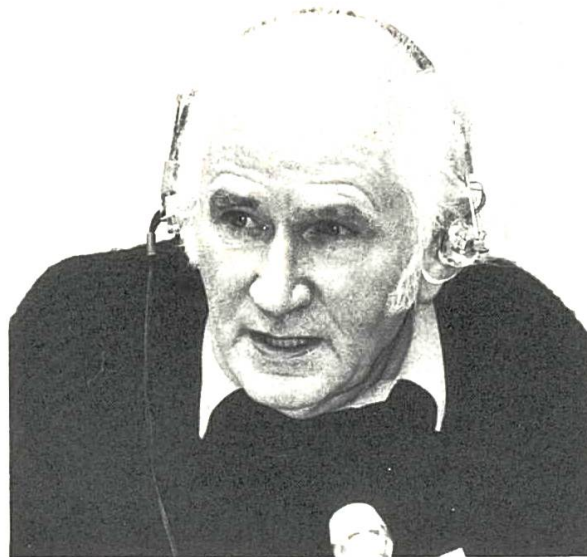


Parcs et Promenades
de la Ville de Genève

Conservatoire
et Jardin Botaniques

L'ARBRE en VILLE

The choice
of urban species



A. MITCHELL

RÉSUMÉ

Le choix des essences urbaines — A. MITCHELL

Aujourd'hui, les essences dominantes dans les parcs urbains, en Europe du Nord du moins, sont des arbres qui ont été plantés avant l'établissement des normes anti-pollution. Ils devaient donc être résistants aux fumées. Dans la plupart des ces endroits, la lumière du soleil est loin d'être abondante, et les effets nuisibles de la pollution étaient bien plus dus à l'absorption des rayons solaires par l'air malpropre qu'aux polluants chimiques proprement dits. Aujourd'hui, la teneur de l'air en dioxyde de soufre a augmenté en beaucoup d'endroits, mais cela a eu peu d'effets, comparativement à l'aggravation de l'absorption du rayonnement solaire par la pollution. Là où il y avait principalement des platanes au feuillage terne, des chênes chevelus, des ormes blancs et des tilleuls, il est maintenant possible de planter des espèces très variées et de nouveaux cultivars pour donner un nouveau visage à la ville.

ZUSAMMENFASSUNG

Die Auswahl der Stadtbaumarten — A. MITCHELL

Die heute, zumindest in Nordeuropa, in den Stadtparks vorherrschenden Baumarten wurden vor dem Inkrafttreten der Gesetzgebung über die Luftreinhaltung gepflanzt und mussten gegen rauchverschmutzte Luft widerstandsfähig sein. In den meisten dieser Gebiete ist die Sonnenstrahlung nicht sehr hoch und die Schadwirkungen der Verschmutzung sind weniger auf die eigentlichen chemischen Schadstoffe als vielmehr auf die Absorption der Sonnenstrahlen durch die verschmutzte Luft zurückzuführen. Heute ist der Schwefeldioxidgehalt viel höher als zuvor; doch hat dies, verglichen mit der grossen Zunahme der Sonnenstrahlung, nur unbedeutende Auswirkungen. Wurden früher zumeist Bäume mit eintönigem Laubwerk, wie Ahorn, türkische Eiche, Weissulme und Linde, gesetzt, so ist es heute möglich, eine grosse Anzahl verschiedener Arten und neuer Kultivaren anzupflanzen, um die Landschaft zu verändern.

SUMMARY

The choice of urban species — A. MITCHELL

The trees now dominant in city parks, at least in Northern Europe, are those which were planted before Clean Air legislation. They had to resist smoky air. In most cases, sunlight is far from abundant and the ill effects of pollution were due more to absorption of sun rays by sooty air than to gaseous pollutants. Today, sulphur dioxide in the air has increased in many places but consequence of this increase is less apparent than damages due to sun rays absorption by pollution. Where the old trees were largely dull foliaged sycamore, Turkey oak, withe elm and limes, we can grow now a wide variety of species and of new cultivars to transform the scene.

The big trees in the streets and parks in cities today are a legacy from the times until some 25 years ago, when they had to grow in conditions rather different from those today. The various Clean Air acts have removed nearly all the soot from the air. This had been a serious pollutant in all cities because much of it came from domestic fires and even in the absence of industry it affected profoundly the kind of tree which could be grown successfully. The city parks are thus dominated by old specimens of particularly tough species able to thrive in poor soil and sooty air. These are London plane (*Platanus* × *acerifolia*); Common lime (*Tilia* × *europaea*); Sycamore (*Acer pseudoplatanus*); Hodgins's holly (*Ilex* × *altaclerensis* 'Hodginsii'); Turkey oak (*Quercus cerris*) and, notably in Scottish cities, where the problem was acute, Wych elm (*Ulmus glabra*). In many places the Horse chestnut (*Aesculus hippocastanum*) and its very dull hybrid Red horse chestnut (*Aesculus* × *carnea*), Black Italian poplar (*Populus* 'Serotina') and Weeping willow (*Salix* 'Chrysocoma') grew well, but only where summers are relatively hot can the Catalpas, *Robinia*, *Taxodium* and *Ailanthus* make worthwhile trees. These resist sooty air probably because, coming from relatively hot countries, they leaf out very late in Northern Europe and shed their leaves quite early, leaving only a very short period in which they can accumulate damage.

So the main arboreal component of these parks was large, but very dull, often coarse trees, few with noticeable flowers or autumn colour. The factor most limiting however, seems not to be the gaseous pollutants like sulphur dioxide, which has decreased in some places, but the particulate matter, the soot. And the effect here is likely to be less the physical effect on foliage than the screening of radiation from sunlight and the lowering of light levels at all times. Sunbathing

was a waste of time in 1950 London. No strength of sun could be felt. Now one can be sunburned. And much of the limitation on species for city planting has disappeared. Many more species and cultivars have been put into the trade and experience in many countries, notably in the United States, has shown that a very wide range of attractive trees can be expected to thrive in a city.

The criteria no longer start with the over-riding one that the tree should tolerate smoky air. They now are, ease of raising in numbers, general health and early vigour, tolerance of compaction and restricted root-run in poor soil, a naturally shapely crown, good foliage and bark and lack of large, or squashy fruit to incommode pedestrians. An ability to survive being moved and planted when far too big for that to be a desirable or easy operation is an advantage.

There follow some trees of particular value, some of which have been recognized as such and used in many parts, particularly in the United States, others which are only now coming to notice or have yet to be planted widely.

Acer macrophyllum — Proved itself in Central London, Handsome foliage, big catkins, variable autumn colours.

Acer opalus — Good in Central London. Fine early flowers, can be good autumn colour.

Aesculus flava — Yellow buckeye. The best species for foliage and brilliant autumn colours.

Aesculus × **plantierensis** — Vigorous, good foliage, big panicles of soft pink flowers.

Aesculus indica — Proved in Central London. Leafs out orange-brown; fine foliage; late pink flowers, autumn yellows.

Aesculus turbinata — Japanese horse chestnut. Huge foliage, long flower panicles, orange autumn colour.

Alnus cordata — Italian alder. Very vigorous and shapely. Profuse big early catkins, large fruit, handsome glossy leaf, very tolerant.

Alnus incana 'Coccineis Ramulis' — Scarlet winter buds; yellow leaf, small growing.

Betula papyrifera — Paper birch. White or orange bark, good foliage.

Betula pendula 'Dalecarlica' — White bark, neat narrow crown, elegant foliage disintegrating soon after falling.

Carpinus betulus 'Fastigiata' — Pyramidal hornbeam. The perfect shape and thrives on heavy clays.

Catalpa speciosa — Northern catalpa. Coming from Missouri with cold winters, far more suitable in Northern Europe than the Southern Catalpa, *C. bignonioides* from Alabama. Finer, taller tree, better foliage, earlier flowers, good yellow autumn colour.

Cedrus atlantica var. **glauca** — Blue Atlas cedar. Long used in the cleaner cities of Europe and could be used more widely for winter shelter and colour.

Corylus colurna — Turkish hazel. Remarkably vigorous, tolerant and shapely tree with big early catkins and good foliage.

Crataegus phaenopyrum — Washington thorn. Pretty foliage and flowers, scarlet berries remain when leaves shed.

Cupressus glabra — Arizona smooth cypress. Peculiarly resistant to frost, heat, drought and poor soils. Always shapely.

Euodia daniellii and **E. velutina** are very similar to *E. hupehensis* and growing as fast or faster in Central London.

Euodia hupehensis — The biggest in Britain is in Greenwich Park to the east of London where the smoke was worst. Very vigorous, with smooth bark, pretty leaves, September flowers and red berries.

Fraxinus oxycarpa — Caucasian ash. Remarkably tough, vigorous tree on difficult sites with smooth, shiny grey bark and dense, elegant foliage. 'Raywood' is even faster but turns deep purplish red in autumn; not always a pleasant colour.

Ginkgo biloba — Universal downtown tree from Montreal to New Orleans now being planted in London. Free of all pests. Needs warm summers; withstands severe winters.

Gleditsia triacanthos — Honey locust. The only tree that can survive with the Ginkgo in some American city centres. Late into leaf and early to brief golden autumn colour, rather sparse and open. Big pods a nuisance in hot cities — avoided by use of non-fruiting 'Moraine'. 'Sunburst' is vigorous but often spreads low. It comes into leaf bright gold then early leaves turn green. It is thornless.

Ligustrum lucidum — Chinese or Glossy privet. Old trees thrive in London but little appreciated until now. Glossy evergreen leaves with ivory-white flowerheads in bud from spring until opening in October-November and highly fragrant.

Liquidambar styraciflua — Sweetgum. The foliage is so good that lack of brilliant autumn colour in city trees is unimportant.

Liriodendron tulipifera — Tulip-tree. Vigorous and healthy.

Malus hupehensis — Hupeh crab. Better than all the many crabs so often planted. Remarkably vigorous to a big size, amazingly prolific from 5th year from seed, of big, white, cup-shaped flowers with golden bosses, spraying out in long-stalked bunches, pink in bud. Comes true from seed, being triploid. Dark red berry-like fruit.

Malus tschonoskii — Pillar apple. Extremely tough, movable, shapely, leaflets silver, few fruit, superb autumn colours.

Pyrus calleryana 'Chanticleer' — Tough and resilient, moving well, this slender columnar tree leaflets silver when the white flowers are out. In summer it is soft grey-green with a few leaves yellow and scarlet, and in autumn, sometimes flowering again, it is dapple, yellow, orange, scarlet and deep red over a long period.

Quercus coccinea — Scarlet oak. Warm summers only. 'Splendens' more vigorous, bigger leaf. Reliable autumn colours.

Quercus palustris — Pin oak. Splendid in American cities from Princeton and Pittsburg south. Good shape, foliage and autumn tints.

Quercus robur 'Fastigiata' — Cypress oak. Neat narrow column; good autumn colour, good on clay, very tough.

Sorbus hupehensis — Hupeh rowan. Sturdy, movable, unusual glaucous foliage, good flowers and white fruit. (*Sorbus* 'Joseph Rock' is shapely and very pretty, scarlet and purple with yellow fruit in autumn, but can no longer be recommended as it is prone to fireblight. Other good *Sorbus*, including *hupehensis* are more resistant but fear of the disease is beginning to curtail planting.)

Tilia cordata — Small-leaf lime. American experience shows this to be a city tree of great worth, planted very widely, in streets and avenues. Attractive foliage, starry yellow flowers and great tolerance. Shapely in youth, maybe for longer in the selection 'Green Spire'.

Tilia 'Petiolaris' — Silver pendent lime. Grows to a great height and hangs big leaves with silver undersides. Good in cities.

Tilia tomentosa — Silver lime. Very shapely crown and sustained vigorous growth in cities. Masses of late, fragrant flowers, a pale gold in autumn.

Zelkova serrata — Keaki. Use in America and north London shows that this very attractive tree is tolerant, healthy and vigorous in cities. The slender leaves, elegantly held turn amber pink and red in the autumn.