CUT-LEAF TREES[1]

by M.J. Whitehead

The importance of conserving and re-establishing our indigenous woodlands is well understood. Progress has paved an artificial environment of agriculture, cities, routeways and the landscaping of stately homes. Early exploration and the wealth of plant introductions has resulted in the rich exotic flora of our cities, parks and arboretums, their popularity gained through the avid work of the early plant hunters.

Many of the introduced trees have, over the years, reacted to the alien environment giving rise to various mutants and sports, in a similar way to the cultivated forms of our native "Beech" or, the exotic trees have been grown together, resulting in the opportunity to produce hybrids, for example, the hybrid between the "European" and "Japanese Larch."

Cultivars

The keen eye of the horticulturist has led to the propagation of a vast range of cultivated plants, found, artificially raised and maintained by man, from attractive mutated parts of the trees species or sometimes from interesting variants occurring in the wild which often reproduce from seed, as is the case with the "Purple Beech." Cultivars form an extensive range of selected ornamental and amenity trees with numerous tree shapes, branch forms and many leaf, flower and fruit colours. This article singles out one type of cultivar, the cut-leaf or fern-leaf tree, to promote their use as single specimens, groups or mixtures and to indicate the wide range of species which have forms or clones with cut-leaf foliage and could be more widely used in the trade.

Botany of the cut-leaf consists in the reduction of the leaf blade (lamina) to the secondary or main vein of a leaflet or leaf. This may be the only difference, visually, from the normal species or it may result in a smaller size tree, due to proportionate reduction of leaf surface and the rate of growth, such as *Alnus glutinosa* 'Imperialis' or perhaps the production of a more densely twigged crown, as seen in the characteristics of the "Cut-leaf Beech" *Fagus sylvatica* var, heterophylla. Cut-leaf trees have familiar nomenclature with such terms as *dissectum* (cut into numerous segments), *filicifolia* (thread or fern-like), *heterophylla* (variable shapes) and *laciniata* (slashed into narrow segments).

Arboricultural value

Selection and use of cut-leaf trees vary according to the species requirement as to soils and situation. Their main attraction of finely cut-foliage may be put to use in the following ways.

(a) Open grown specimen tree with finely cut-foliage display.
(b) Fine textured foliage for group planting or mixtures with other leaf shapes and sizes forming interesting distant patterns.
(c) Planting in parks, pedestrian areas and pathways where the interesting foliage may be admired at close quarters.
(d) Included in botanical collections of species and with other similar cultivated forms.
(e) Planting for educational or scientific purposes.
(f) Grown as curiosity specimens, which often stimulate further interest in all types of plants.
(g) Smaller size cultivars often suitable for small gardens and confined areas.
(h) Fine foliage often suitable for the choice of tree which does not cast dense shade in gardens, near buildings, or on lawns.
(i) Use of fine-foliage to complement the landscaping of bold surfaces, buildings, reflecting windows and water areas.

Illustrated specimens

Compound leaves (lamina reduction of leaflets or a number of main veins).

(a) *Aesculus hippocastanum* f. *Laciniata:* an interesting shape with a short petiole, the main veins are thread-like, having a few jagged remains of the leaf blade. It forms a slow growing small tree often mop-headed and

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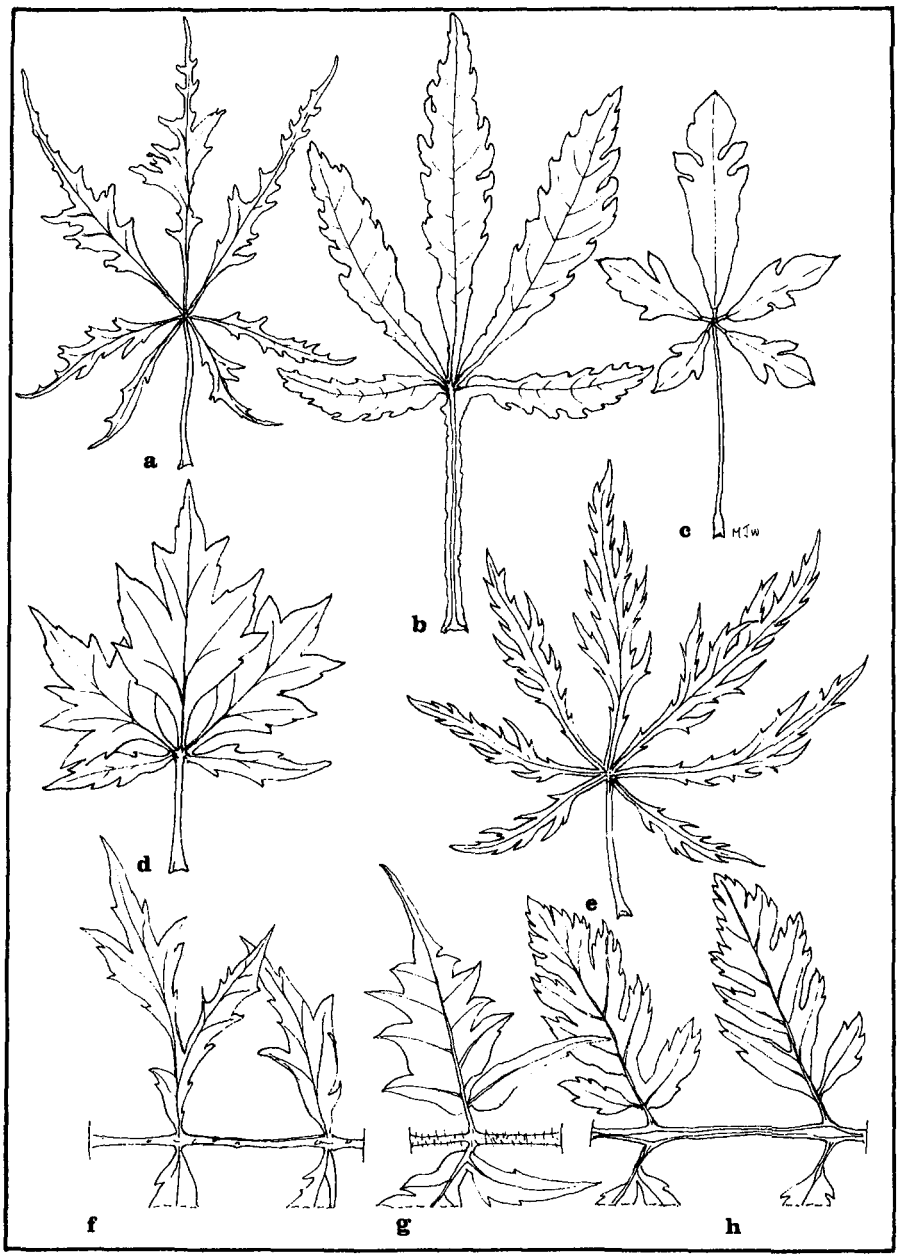

Figure 1. Compound leaves: (a) *Aesculus hippocastanum* L. f. *Laciniatum;*
(b) *A. hippocastanum* L. 'Digitata';
(c) *Laburnum anagyroides* Med. 'Quercifolium';
(d) *Acer platanoides* L. 'Lorbergii';
(e) *A. palmatum* L. 'Dissectum';
(f) *Juglans regia* L. 'Laciniata';
(g) *Rhus typhina* L. 'Laciniata';
(h) *Sorbus aucuparis* 'Asplenifolia'.

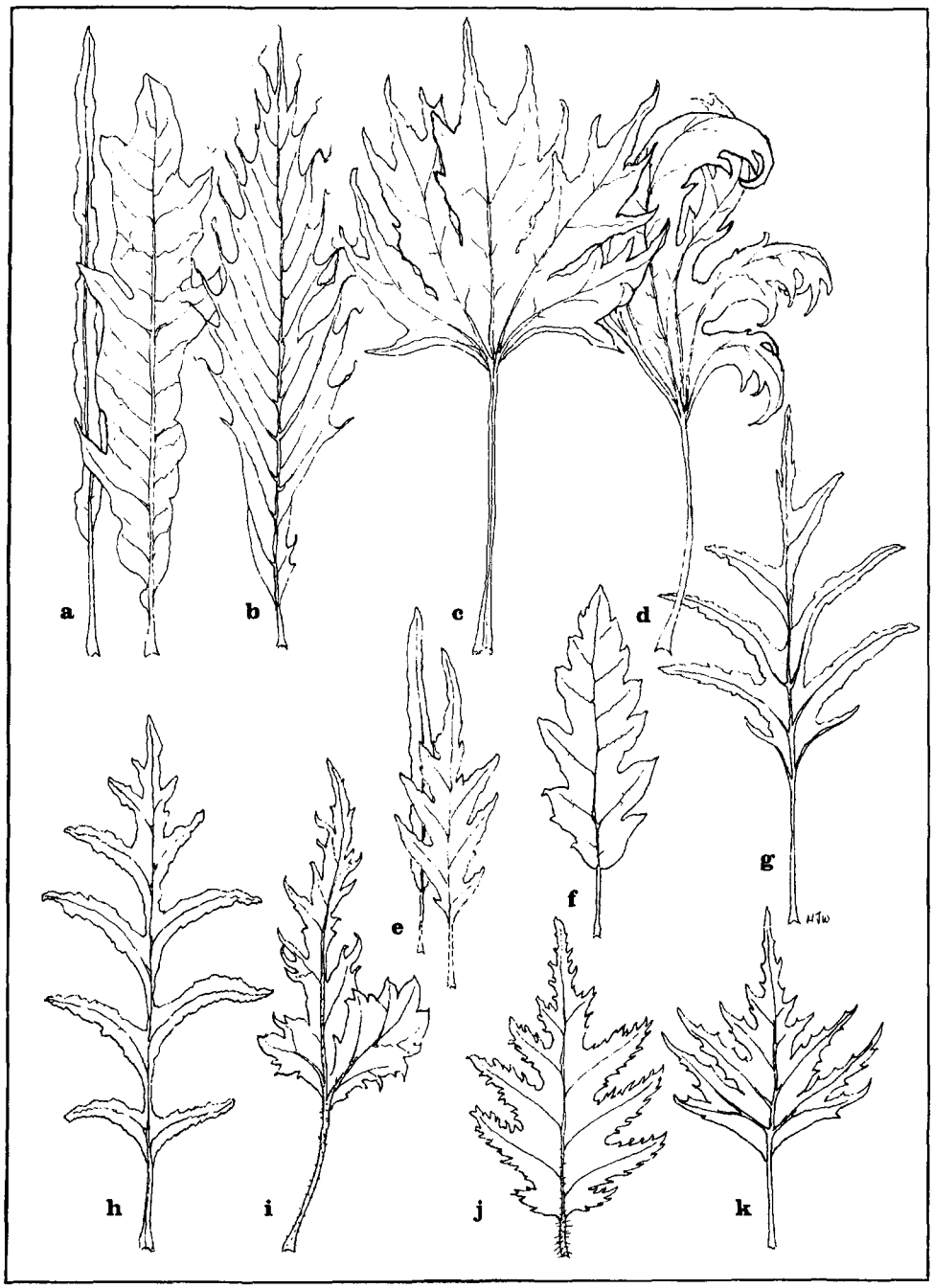

Figure 2. Simple leaves: (a) *Castanea sativa* Mill. 'Heterophylla Nova';
(b) *C. sativa* Mill. 'Crispa';
(c) *Acer platanoides* L. 'Dissectum';
(d) *A. platanoides* L. 'Laciniata';
(e) *Fagus sylvatica* L. 'Heterophylla'
(f) *Carpinus betulus* L. 'Incisa';
(g) *Alnus glutinosa* 'Imperialis'
(h) *Quercus robur* L. 'Filicifolia';
(i) *Tilia platyphyllos* Scop. 'Laciniata';
(j) *Corylus avellana* L. 'Heterophylla';
(k) *Betula pendula* Roth 'Dalecarlica'.

Fig. 3. Contrasting fine foliage of *Juglans regia* **'Laciniata'**

Fig. 4. Cut-leaf leaflets and fruit of *Juglans regia* **'Laciniata'.**

Fig. 6. *Alnus glutinosa* **'Imperialis' at Leamington Spa, England.**

Fig. 5. The 'cut-leaf' alder, *Alnus glutinosa* **'Incisa', growing with the Italian alder,** *Alnus cordata* **at Batsford Park, England.**

with lower pendulous branches, more a curiosity plant than ornamental. Specimens at Kew and Albury Park.

(b) *Aesculus hippocastanum* 'Digitata': a medium size tree of little ornamental merit, the leaves are unusual with reduced leaflets and a curiously winged petiole. The cultivar 'Crispa' may be a similar form. Good specimens at Kew and Trompenburg, Holland.

(c) *Laburnun anagyroides* 'Quercifolium': forming a handsome small tree, the trifoliate leaves are further divided into a compound palmate leaf, usually with five leaflets. Long drooping racemes of yellow flowers are produced abundantly in the spring.

(d) *Acer plantanoides* 'Lorbergii': a robust tree with dark green foliage, the palmate leaf is dissected to the petiole forming a compound leaf. Good autumn colours.

(e) *Acer palmatum* 'Dissectum': popular shrubby trees with delicate foliage, and excellent for autumn colours.

(f) *Juglans regia* 'Laciniata': a medium size tree with elegant large pinnate leaves and finely divided leaflets, on a slender flexible rachis. The cultivar 'Heterophylla' has similar foliage.

(g) *Rhus typhina* 'Laciniata': a common small suckering shrubby tree with large handsome cut-leaf foliage and is very reliable for good autumn colour.

(h) *Sorbus aucuparia* 'Asplenifolia': the finely divided dark green leaves have a fern-like appearance, the cultivar 'Kewensis' is similar and both trees have attractive flowers and fruit.

Simples leaves (reduction of lamina to secondary veins or a single main vein).

(a) *Castanea sativa* 'Heterophlla Nova': an interesting foliage tree with variable large leaf shapes, the terminal leaves often reduced to a thin lanceolate midrib. It is similar to 'Asplenifolia' and 'Filipendual' which tend to have more irregular shredded teeth on the leaves.

(b) *Castanea sativa* 'Crispa': handsome large leaves with a wide leaf blade and numerous characteristic forward pointing veins, and having long thread-like points.

(c) *Acer platanoides* 'Dissectum': the leaves are similar to the species with the lobes being nire irregularly pointed. May be found in collections named as *Acer platanoides* f. *laciniatum*.

(d) *Acer platanoides* 'Laciniatum': a small erect branching tree with remarkable foliage, the pointed lobes curl up and resemble the talons of a bird of prey and is often called the "Eagles Claw Maple". Specimen in the maple collection of Kew.

(e) *Fagus sylvatica* var. *heterophylla:* a common tree forming a large crown of dense twigs and fern-like foliage. Many of the terminal leaves are reduced to thin straps and often odd branches are subject to reversion. Fine old specimen at Farnham.

(f) *Carpinus betulus* 'Incisa': this form is similar in size and shape to the species and differs by the irregular toothed margins an interesting variation which is subject to reversion and is probably not as attractive as the species. 'Asplenifolia' and 'Querifolia' may cause some confusion in the naming of the cultivar.

(g) *Alnus glutinosa* 'Imperialis': a very handsome small tree with delicate foliage which can be attractively duplicated when grown near water.

(h) *Quercus robur* 'Filicifolia': a highly ornamental medium size tree with large leaves and the lamina much reduced to the secondary veins to appear pinnate. The name often regarded as *Quercus* x *rosacea* 'Filicifolia'.

(i) *Tilia platyphyllos* 'Laciniata': medium size dense conic shaped tree, the shredded leaves often have a curious lobing near the petiole. A handsome tree at close quarters and when viewed from a distance.

(j) *Corylus avellana* 'Heterophylla': a cultivar which is not often grown, yet it is very attractive shrubby tree with neatly toothed foliage.

(k) *Betula pendual* 'Dalecarlica': called the "Swedish Birch" from its country of origin and forms an elegant tree with very long pendulus branchlets, good white bark an attractive cut-leaf foliage. Graceful tree near the lake at Wisley.

Check list of cut-leaf and variable foliage trees

To aid records and reference the check list has been compiled and may help to sort out or perhaps cause further nomenclatural problems. Hopefully the list will encourage wider use of cut-leaf trees and the range of species available for selection and use of their variable foliage forms. There are problems with genera such *Acer, Castanea, Quercus* and *Fagus* having a number of variant and clonal forms, which only differ in slight variation of leaf shape and that they have been raised and brought into the trade with their variable named varieties and cultivars.

A tentative list of variants and cultivars of cut-leaf and abnormal foliage trees

Acer japonicum Thunb
'Aconitifolium' (Syn. Filicifolium, Laciniatum, Parsonii)
A. mono Maxim.
'Dissectum'
A. negundo L.
'Crispum'
'Heterophyllum' (Syn. Laciniatum)
A. palmatum Thunb.
'Chitoseyama'
'Crippsii'
'Dissectum atropurpureum'
'Dissectum flavescens'
'Dissectum ornatum'
'Dissectum palmatifidum'
'Dissectum variegatum'
'Heptalobum elegans'
'Heptalobum elegans purpureum'
'Linearilobum' (Syn. Scolopendrifolia)
'Linearilobum atropurpureum' (Syn. Atrolineare)
'Ribesifolium' (Syn. Shishigashira)
'Sessifolium (Syn. Decompositum)
A. Platanoides L.
'Cucullatum'
'Dissectum' (Syn. Palmatifidum)
'Heterophyllum variegatum' (Syn. Aureomarginatum).
'Laciniatum'
'Lorgergii'
A. saccharinum L.
'Born's graciosa'
'Crispum'
f. *laciniatum* Rehd.
var. *tripartitum* (Schwer.) Pax.
'Waferi'
'Wieri'
Aesculus hippocastanum L.
'Crispa'
'Dissectum'
'Incisa' (Syn. Henkelii)
f. *laciniata* Schelle
Alnus glutinosa Gaertn.
'Imperialis'
var. *incisa* Koehne. (Syn. *osyacanthifolia*)
'Laciniata'
'Quercifolia'
'Sorbifolia' (Syn. f. *lacera*)
A. incana Moench.
'Laciniata' (Syn. Acuminata, Pinnatifida)
A. rubra Bong. var. *pinnatisecta*
Starker
Arbutus x andrachnoides Link.
'Quercifolia'
Betula lenta L. var. *laciniata* Rehd.
B. pendula Roth. f. *crispa*
'Dalecarlica (Syn. Laciniata)
'Gracilis' (Syn. Elegans laciniata)
Caragana arborescens Lam.
'Lorbergii'

Carpinus betulus L.
'Asplenifolia'
'Heterophylla'
'Incisa'
'Quercifolia'
Castanea sativa Mill.
'Asplenifolia'
'Dissecta'
'Crispa'
'Fillipendula'
'Heterophylla'
'Heterophylla nova'
'Laciniata'
'Linearifolia'
Corylus avellana L.
'Heterophylla' (Syn. Laciniata, Quercifolia)
Crateagus monogyna L.
'Filicifolia'
'Pteridifolia'
f. *laciniata* (Loud.) Dipp.
Fagus sylvatica L.
'Ansorgei'
'Asplendifolia'
'Comptonifolia'
'Cristata' (Syn. Crispa)
var. *heterophylla* Loud. (Syn. Incisa, Laciniata)
f. *laciniata* (Syn. Quercifolia)
f. *quercoides* Kirchn.
'Rohanii'
Fraxinus angustifolia Vahl. var.
lentiscifolia Henry.
Franxinus excelsior L.
'Asplenifolia'
'Crispa'
Fraxinus excelsior L.
'Diversifolia laciniata'
'Erosa'
'Hessei'
'Scolopendrifolia'
Fraxinus 'Veltheimii'Deick
Ginkgo biloba L.
'Laciniata'
Ilex aquifolium L.
'Crispa'
Juglans regia L.
'Heterophylla'
'Laciniata'
Laburnum anagyroides Med.
'Quercifolium'
Liriodendron tulipifera L.
'Contortum'
Morus alba L.
'Laciniata' (Syn. Sceletoniana)
Platanus orientalis L. var. *digitata*
Jank. (Syn. Laciniata)
Populus alba L.
'Paletzkyana'
Prunus avium L.
'Asplenifolia' (Syn. Laciniata)
P. serotina Ehrh.
'Asplenifolia'
Ptelea trifoliata L.
'Heterophylla'
Quercus alba L. var. *pinnatifida* Michs.
W. cerris L.
'Laciniata'
Q. dentata Thunb.
'Pinnatifida'
Quercus x heterophylla Michx.
Quercus x hispanica Lam.
'Diversifolia'
Q. iles L.
'Crispa'
Q. petraea Liebl.
'Cochleata'
'Giesleri'
'Geltowiensis'
'Insecta' (Syn. *sessiflora* var. *laciniata* Lam.
'Louettei'
f. *mespilifolia* (Wallr.) Rehd.
Q. robur L.
'Crispa'
'Cristata'
'Fennessii' (Syn. Heterophylla, Trinessii)
'Filicifolia' (Syn. Asplenifolia, Taraxacifolia,
s rosacea Bechst. Filicifolia)
'Pectinata'
Rhamnus frangula L.
'Asplenifolia' (Syn. *Frangula alnus* Mill. 'Asplenifolia')
Rhus glabra L.
'Laciniata'
R. typhina L.
'Dissecta' (Syn. Laciniata)
f. *laciniata* (Wood.) Rehd.
Robinia pseudoacacia L. var. *dissecta* Mottet.
Salix babylonica L.
'Annularis' (Sny. Crispa)
Sambucus canadensis L.
'Acutiloba' (Syn. Laciniata)
S. nigra L.
'Laciniata'
'Heterophylla'
S. rubens Michx.
'Dissecta'
S. racemos L.
'Plumosa aurea'
'Tenuifolia'
Sorbus aucuparia L.
'Asplenifolia' (Syn. Laciniata)
Sorbus x kewensis Hensen.
Syringa x persica L.
'Laciniata'
Tilia platyphylos Scop.
'Asplenifolia'
'Laciniata' (Syn. Filicifolia)
Ulmus glabra Huds.
'Crispa' (Syn. Asplenifolia, Urticifolia)
Vitex negundo L.
'Incisa'

References

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