

A Colour Atlas of
**Flowering Trees
and Shrubs**

by V. Csapody and I. Tóth

Akadémiai Kiadó
Budapest



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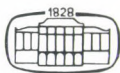
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Six hundred and eight species and varieties of plants are depicted in this companion, illustrating the most characteristic parts, like the leaf, the flower, the fruit and in many instances the pubescence, the thorns, the bursting buds or the catching autumnal colours.

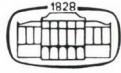
Vera Csapody, owner of the State Prize has drawn and painted plants for over fifty years. She was the illustrator of a great variety of botanical works both scientific and popular. The illustrations in this volume have been selected from among thousands of her original water-colours.

Imre Tóth is a dendrologist, who wrote the short but very critical notes to the illustrated plants. Besides the scientific names with authors, the English vernacular and sometimes the common variety names are also given. The notes include the original country of the plant, the shape of the crown and the leaf, a brief description of the flower and the fruit, flowering time, requirements of soil and climatic conditions and horticultural value.

This volume is a rich picture-book of European trees and shrubs, both instructive to the mind and appealing to the eye.



Akadémiai Kiadó · Budapest



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by V. Csapody and I. Tóth

Akadémiai Kiadó
Budapest 1982

English translation by
L. Zombori

ISBN 963 05 2783 9

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Printed in Hungary

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Preface

This is a selection of arborescent plants cultivated in Central Europe. A selection from many thousands of species and varieties that can make the environment of town-dwellers more pleasant to live in. The asphalt jungle, the smoky air heavily laden with exhaust fumes, the noise and the rapid flow of events bear down on us and we long for the harmony, beauty and peace of nature. To this end there is great scope in the rich domain of arborescent plants.

Any selection must look both backwards and forwards in time, for trees and shrubs take time to develop. We enjoy our legacy from the past and we plant for future generations. Parks, arboreta and gardens however small are treasure houses for each of us.

The method of selection adopted in this book follows no strictly systematic order. It is more like a personal experience, showing the colours of spring, the fullness of summer or autumn's valediction. On other occasions it celebrates the rich store of cultivated varieties that have sprung from the gardener's expert hand.

In our task of selection we were sometimes overwhelmed by beauty and carried away by a desire to delight or to recall memories. Accordingly, some genera are represented by many species because of their brilliant colouring or richness of form.

*

The present book acquaints the reader with those trees and shrubs that are hardly in the open in Central Europe. It also gives information on their behaviour in Hungary or in the neighbouring countries.

*

The authors think with gratitude of the great Hungarian landscape gardeners and of their gardeners: István Ambrózy-Migazzi and Lajos Vörös (Jeli), Mihály Baich and Gyula Molnár (Szeleste), István Saághy and István Bánó (Szombathely-Kámon), Sándor Vigyázó and Vilmos Jámbor (Vácrátót), Pál Bolza and Jenő Misák (Szarvas). We wish above all to remember of late Mihály Baich, as it was he, who some decades ago, encouraged the preparation of this book.

Dr. Vera Csapody

Systematical survey

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Notes about the depicted taxa

Colour plates

Plate 1

Gymnospermae — Gymnosperms

Pinaceae — Pine Family

**1. *Abies cephalonica* Loud. —
Greek Fir**

A native of the higher mountains of Greece; 20–30 m in height, compact, slender, with a conical crown, branches almost horizontal. Leaves sharply pointed. Under favourable conditions its growth is comparatively rapid, endures warm climate and air poor in humidity. A heliophyte, resistant to drought.

**2. *Abies pinsapo* Boiss. —
Spanish Fir**

A native of the southern part of Spain, 20–25 m in height, with a thick trunk, crown densely branched, broad and conical in shape. Easy to identify by its short, thick greenish grey needles positioned radially on the stem. Calciphilous, requiring warm soil, a sunny place with humid climate. One of the most beautiful representatives of firs. Unfortunately, it is of slow growth.

**3. *Tsuga canadensis* (L.) Carr. —
Common Hemlock**

A native of the eastern parts of North America, 20–30 m in height, a tree frequently with several trunks and loosely growing branches forming a broad conical crown. Its small cones develop in large numbers even on younger plants. It requires fresh soil and a humid climate, favours water edges or sites of northern exposition. Endures moderate shading. Owing to its characteristic pyramidal crown it is very effective in open space, a beautiful ornament of a park or garden.

4. *Picea asperata* Mast.

It forms huge stands in West China. May even reach a height of 15–25 m developing a broad, conical crown. Very particular as far as soil and climate are concerned. It is more a tree of arboreta.

**5. *Picea glauca* (Moench) Voss —
White Spruce**

A native of the eastern parts of North America, where it reaches a height of 25–30 m. Its habitus — a regular conic shape — reminds one of that of *Picea abies*. Leaves more or less bluish green or whitish grey in colour, very attractive. Cones develop profusely even on young plants lending particular beauty to the tree. Requires a sunny place. Though it is moderately drought-resistant, prefers fresh, good soil.

**6. *Picea omorika* (Panč.) Purkyně —
Serbian Spruce**

A native of Yugoslavia, 20–30 m in height, with a slender, pyramidal crown; owing to its fine shape it is much favoured in gardens. Branches near the top slant upwards, while the short lateral branches droop but their tips rise again. A species fast in growth, requiring much light, drought-resistant; frequently planted in gardens and parks.

**7. *Picea smithiana* (Wall.) Boiss. —
Himalayan Spruce**

In the western parts of the Himalayas, its native land, it reaches 30–50 m in height; in Europe a smaller tree with a conical top. It has the longest needles among the spruces. A much favoured tree of arboreta requiring a humid, sheltered, warm site with a fresh, compact soil. Rather sensitive to frost.

**8. *Picea torano* Koehne — Tigertail Spruce
(*P. polita* [Sieb. et Zucc.] Carr.)**

Perhaps the most interesting *Picea* species reaching a height of some 20–30 m. It has a broad conical crown, and rigid, prickly needles of vivid green colour. The long thin lateral branches of old trees hang down 'like the tail of a tiger hiding in the tree'. In Japan it lives on volcanic soil. Slow of development.



Plate 2

**9. *Pseudolarix kaempferi* (Lindl.) Gord. —
Golden Larch**
(*P. amabilis* [Nels.] Rehd.)

In East China the species lives in mountains at an altitude of 500 to 1,500 m, in Europe it is mainly found in arboreta. A tree of vigorous growth with broad, conical crown attaining a height of 30–40 m. The broad, light green soft needles turn to golden or orange yellow in autumn, and fall. The bloomy, green cones turn to reddish orange brown when fully developed, and disintegrate when ripe. It requires a humid climate, fresh soil rich in nutritive elements, sunny site and open space.

10. *Larix occidentalis* Nutt. — Western Larch

It inhabits the mountainous regions, from an altitude of 1,000 to 2,000 m, of the western part of North America where it reaches a height of 40–80 m. It is a slender tree with a conical crown and branches growing almost horizontally. When fresh the leaves are bright green, later becoming greyish green, in autumn the long needles change to a golden yellow colour. Owing to its loose crown and fine foliage it is an excellent ornamental tree with demands very similar to those of the previous species.

**11. *Larix kaempferi* (Lamb.) Carr. —
Japanese Larch**
(*L. leptolepis* [Sieb. et Zucc.] Gord.)

A 20–30 m high deciduous tree with a slender trunk, broad crown and horizontal branches. As an ornamental tree it is perhaps the most valuable of all *Larix* species and consequently frequently encountered in parks. The cones supply a valuable material for wreaths. A rapidly growing larch especially when young and planted as a solitary tree in a place with fresh soil and humid atmosphere.

**12. *Larix laricina* (Duroi) K. Koch —
American Larch, Tamarack,
Hackmatack**

The 10–20 m high tree has a narrow pyramidal head when young, later becoming broader with drooping branches. A deciduous tree inhabiting the northern parts of North America with fresh or moist soils and plenty of sunshine. The cones are the smallest of all in the species of *Larix*.

**13. *Cedrus libani* A. Rich. —
Cedar of Lebanon**

It is an evergreen tree of Lebanon and the mountains of Taurus and Antitaurus. Owing to its valuable wood the once extensive stands have been greatly diminished. Today more specimens are found in West Europe, and particularly in England than in Lebanon. Height varies between 20 and 40 m; the initially broad conical crown later becomes flat, umbrella-like. Branches first slanting upwards later take up a horizontal position. It requires a sunny, sheltered, humid place, the soil should be water-permeable and calcareous. In some Central European countries of dry cold winter it may not overwinter. A decorative tree, its symbol can be seen in the arms and on the flag of Lebanon.

**14. *Cedrus atlantica* (Endl.) Manetti —
Atlas Cedar**

Its native land is the Atlas Mountains in North Africa, where it attains a height of 20–30 m. The crown is broad, pyramidal, with loosely arranged branches rising at a sharp angle. A valuable ornamental park tree with requirements very similar to those of the Cedar of Lebanon, but a higher tolerance of cold.



Plate 3

15. *Pinus bungeana* Zucc. — Lacebark Pine

A 20–30 m high tree in Central China with the characteristic feature of its bark—like that of the plane tree—exfoliating in large scales, leaving the trunk white when old. The light green leaves stand in threes. As a tree of slow growth, it is seldom planted though its characteristic green-greyish, white-spotted trunk would deserve more attention.

16. *Pinus wallichiana* A. B. Jacks. — Himalayan Pine, Bhutan Pine (*P. excelsa* Wall., *P. griffithii* McClelland)

Living in the Himalayas from an altitude of 2,000 m to as high up as 4,000 m it develops into a 20–40 m high broad and open pyramidal tree. The trunk is frequently curved sword-like. Branches grow whorl-like, either horizontally or bending slightly upwards; the thin, soft needles form a cluster of five drooping leaves. Cones as in other *Pinus* species develop in the second year. A fast growing tree requiring much light. It develops well also on calcareous soil and tolerates urban environment. A valuable ornamental tree for a sufficiently wide space.

17. *Pinus leucodermis* Ant. — Bosnian Pine

The tree originates from the western part of the Balkan and the southern parts of the Appenine Peninsula, where it develops a pyramidal habit with

a maximum height of some 30 m. Older specimens have a grey bark broken into angular plates. Leaves bright green standing in pairs may remain on the tree for 5–6 years. It requires a sunny spot with dry soil. A slow developing species.

18. *Pinus sabiniana* Dougl. — Digger Pine

In California it lives in dry, sunny mountain sides, where it reaches a height of 10–15 m, occasionally with several trunks forming a loose crown. The triplet leaves are 20–30 cm long. Its reddish brown cones remain on the tree for years. Seeds large, edible. Owing to its sensitiveness to frost its growing site should be selected with particular care. It requires warm and dry biotopes. In West Europe only a few specimens are encountered since the humid climate favours infection by fungi. One of the finest representatives of the species in Central Europe is found in Hungary in the Folly Arboretum near Lake Balaton.

19. *Pinus uncinata* Mill. ex Mirb. — Mountain Pine (*P. mugo* Turra var. *rostrata* [Ant.] Cord.)

A 10–20 m high tree in the Pyrenees, Western Alps to the North Carpathians, with 3–4 cm long slightly curved leaves set in pairs much resembling the needles of Mountain Pine. The asymmetric cones are 4–6 cm long. Modest in its requirements except light.

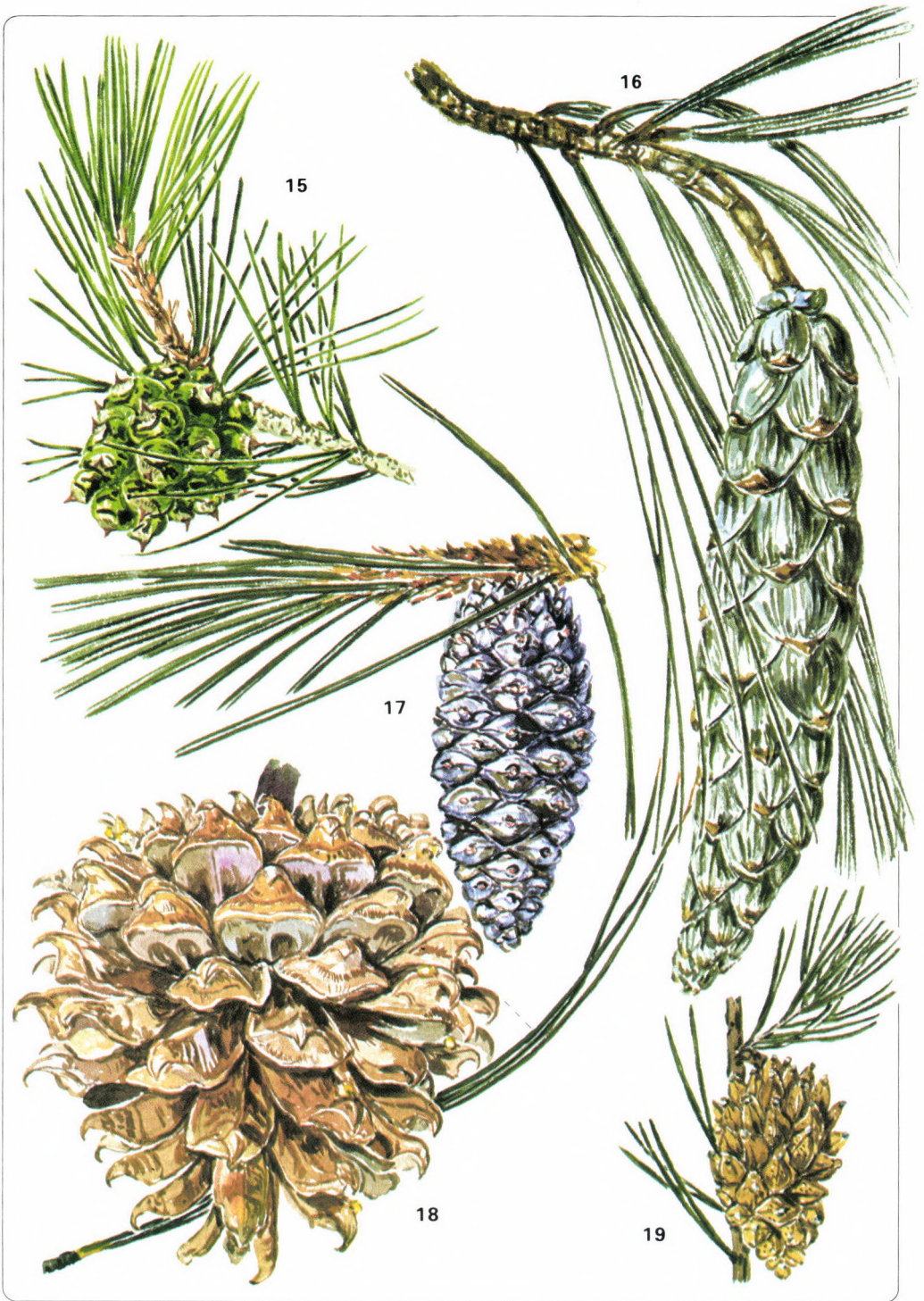


Plate 4

**20. *Pinus jeffreyi* Grev. et Balf. ex Murray —
Jeffrey's Pine, Black Pine**

A 30–60 m high tree, pyramidal when young, later roundish in habit, with wide-spreading branches, in the western parts of the United States. Bark characteristically rusty brown, the young shoots bluish white, pruinose, becoming greyish brown in the second year. Beautiful in shape, modest in requirements, a rapidly growing ornamental pine.

**21. *Pinus pinaster* Ait. —
Cluster Pine**

It originates from the Mediterranean countries; a 20–30 m high tree initially with a pyramidal, later an umbrelliform crown. Its reddish brown bark is deeply fissured. Thermophilous, requiring much light, drought-resistant. Owing to its frost-sensitive

nature in extremely cold winters it does not survive in the northern parts of Central Europe and in Northern Europe.

**22. *Sciadopitys verticillata* (Thunb.) Sieb.
et Zucc. — Umbrella-Pine**

In its native land, Japan, the tree attains a height of 30–40 m; in Europe it does not reach that height. A slender evergreen conifer with a pyramidal head. The glossy dark green leaves grown together in pairs are 8–12 cm long and 5–7 mm wide clustered terminally on the shoots of each year's growth in small 'umbrellas' of 20–30 needles, hence it got its name. The upright, greyish brown (oval to elongated) cones are 6–10 cm long. Preference should be given to sheltered, humid, half-shaded spots without lime in the soil. An extremely decorative tree, much liked for its extraordinary shape and foliage. It should be looked upon as a rarity.

Taxodiaceae — Taxodium Family

**23. *Metasequoia glyptostroboides*
Hu et Cheng**

Peculiarly enough first it was known as a fossil plant and was considered to be extinct. 1945 witnessed its discovery in living form in Hupeh province, China, where it grows to a tall, 30–35 m high tree. Since then it has rapidly become known all over the world, and is today not only a carefully protected rarity in botanical gardens but found its way into parks too. Its pyramidal crown is formed by loosely arranged branches. A deciduous conifer whose autumn foliage has a fine rusty brown hue. In good soil, at sunny spots it develops very rapidly, and produces cones even when young.

**24. *Cryptomeria japonica* (L.f.) D. Don —
Cryptomeria**

In Japan it is a 30–60 m high, but in Europe a much smaller tree with a tapering trunk, slender, pyramidal crown and loose branches. The slightly curved needles mostly assume a rusty brown colour in winter. Those remaining green are liable to become frost-bitten. Being somewhat frost-sensitive when young it should be planted in half-shaded spots sheltered from wind and late frosts with a fresh soil rich in nutrients, and a humid atmosphere. A valuable ornamental tree.



Plate 5

25. *Cunninghamia lanceolata* (Lamb.) Hook. — China Fir

An evergreen tree native of South-east Asia, where it grows to reach a height of 10–20 m; trunk tapering, crown pyramidal. Loosely spaced branches with drooping shoots, trunk rapidly losing the

lower branches. With its rigid, broad, large leaves sharply differs from all other firs. It should be planted in half-shaded, protected places; in severe winters it may become frost-bitten. Occasionally the entire above-ground part dies off but rises again from the base. It requires a humid climate and fresh soil free of lime.

Cupressaceae — Cypress Family

26. *Cupressus sempervirens* L. — Italian Cypress

Tourists visiting South Europe and Asia Minor always look with admiration at the beauty of the 20–30 m high, slender cypresses. They may attain a high age, even several hundred years old trees are not rare. In countries with a warmer climate people frequently plant this species in dry soil of sun-beaten areas. It is a characteristic plant of the South. It is more hardy than expected and often planted as far north as South-west Hungary.

27. *Thujaopsis dolabrata* (L.f.) Sieb. et Zucc. — Hiba Arbor-Vitae

While in Japan a 10–15 m high tree developing a broad-pyramidal crown, in Europe it is mostly a 4–5 m high shrub. Its flat leaved shoots are arranged horizontally in one plane with a wonderful silvery pattern of exquisite delicacy on the lower surface. It requires fresh soil rich in nutrients, a half-shaded, sheltered site with humid climate.

28. *Thuja plicata* D. Don — Giant Arbor-Vitae (*Th. gigantea* Nutt.)

Its native area is the western part of North America from Alaska to California, where it reaches a height of 40–60 m; in Europe it is only half as high. Crown narrow pyramidal, but the lower, pendulous branches touching the soil later throw out roots, then rise again to produce big group of many trunks. Leaves giving off an aromatic scent when are glossy dark green not discoloured in winter. It grows rapidly in sunny spots with fresh soil rich in nutrients. When young a frost-sensitive tree. It reached the gardens of Hungary in the middle of the last century, where has ever since been frequently

planted. In view of its rapid growth and lateral spreading we must ensure sufficient space for each specimen.

29. *Chamaecyparis pisifera* (Sieb. et Zucc.) Endl. 'Filifera' — Sawara Cypress

It is a shrub, occasionally a small tree of 5–10 m height originating from Japan. Crown pyramidal, branches thin, filiform, scarcely branching shoots elongate and pendulous. Owing to its somewhat bizarre shape it is a much favoured plant. Perfectly frost-hardy. It prefers fresh soil and humid climate.

30. *Chamaecyparis nootkatensis* (D. Don) Sudw. — Nootka Cypress

In the north-western part of North America near the Pacific Ocean a tree of some 30–40 m with a slender pyramidal crown, ascending branches and pendulous, dark green branchlets. It prefers humid climate, and requires fresh soil.

31. *Calocedrus decurrens* (Torr.) Florin — Incense Cedar (*Libocedrus d.* Torr., *Heyderia d.* [Torr.] K. Koch)

A 30–40 m high, pyramidal, evergreen tree occurring in the western parts of North America from Oregon to California in cool, moist valleys. Branchlets and shoots with elongated flat scaly leaves nearly in whorls of 4 are arranged in flat planes. The glossy green colour of foliage does not change even in winter. In a suitable place with fresh soil it grows rapidly, later tolerant to drought. Under colder climate may suffer frost damage when young.

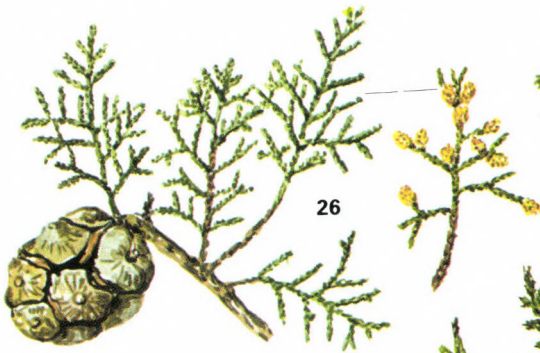


Plate 6

32. *Juniperus chinensis* L. — Chinese Juniper

It is a native of East Asia growing to a height of 15–20 m, forming a broad pyramidal head. An evergreen tree or—under unfavourable conditions—a shrub only. The thin branchlets bear scale-like rhombic and acuminate leaves alike. Modest in its requirements; except for extreme conditions it develops well almost anywhere. In Hungary and other Central European countries varieties with columnar and habit with creeping stem are widely planted.

33. *Juniperus drupacea* Labill. — Syrian Juniper

Its native lands are Asia Minor and Greece where it may grow as high as 10–12 m. The trunk is branched from the base, the crown either a broad pyramid or columnar in shape. Its characteristically broad and long needles are whorls of three. Its fleshy, sweetish, somewhat resinous fruit is edible. In the Mediterranean and sub-Mediterranean regions of Europe beautiful specimens can be grown. Owing to its frost-sensitivity does not survive in regions with much precipitation and cooler climate.

Podocarpaceae — Podocarpus Family

34. *Podocarpus nivalis* Hook.

An evergreen shrub of 1–2 m in the mountains of New Zealand with branches rushing out roots

when touching the ground. The rigid leathery, thickly set leaves are arranged in a spiral. It is a dendrological rarity requiring a sheltered spot with high humidity content and fresh soil.

Cephalotaxaceae — Plum-Yew Family

35. *Cephalotaxus harringtonia* (Forbes) K. Koch var. *drupacea* (Sieb. et Zucc.) Koidz. — Japanese Plum-Yew

A small evergreen tree of some 5–10 m from East Asia. In Europe it generally develops into big,

roundish bush with spreading branches. Branches arranged in whorls of 3 or 4. The biserially arranged upward slanting leaves are thick, leathery and dark green. The male specimen has a much denser foliage. The large seeds are enveloped in fleshy rind. It prefers fresh soil and half-shaded places.

Taxaceae — Yew Family

36. *Taxus baccata* L. 'Aurea' — Golden Yew

A low, densely branched evergreen shrub of 2–4 m. The young shoots are yellow in colour. The closely set leaves are yellow or at least yellow-margined when emerging, but change colour and become green in a year's time. A slow growing plant. When planted with other coloured evergreens it produces a very picturesque effect.

crushed; tips pointed. Edible seeds encased in fleshy rind. Prefers sheltered humid place and develops into a large bush or small tree in Central Europe.

37. *Torreya nucifera* (L.) Sieb. et Zucc. — Japanese Torreya

In its native land a 5–15 m high evergreen tree, but in our continent mostly a shrub. The glossy, dark green leaves give off a pleasant smell when

38. *Torreya californica* Torr. — California-Nutmeg

In the mountains of California from 500 to 1500 m, also in valleys and along rivers this species develops into a tree of some 15–20 m height; in Europe it only reaches 5–10 m. It has a pyramidal head with loosely arranged branches and glossy, dark green leaves set in two rows, which emit an aromatic smell when crushed. As a thermophilous plant, it had better be planted in sheltered places into fresh soil. Frost-sensitive when young.

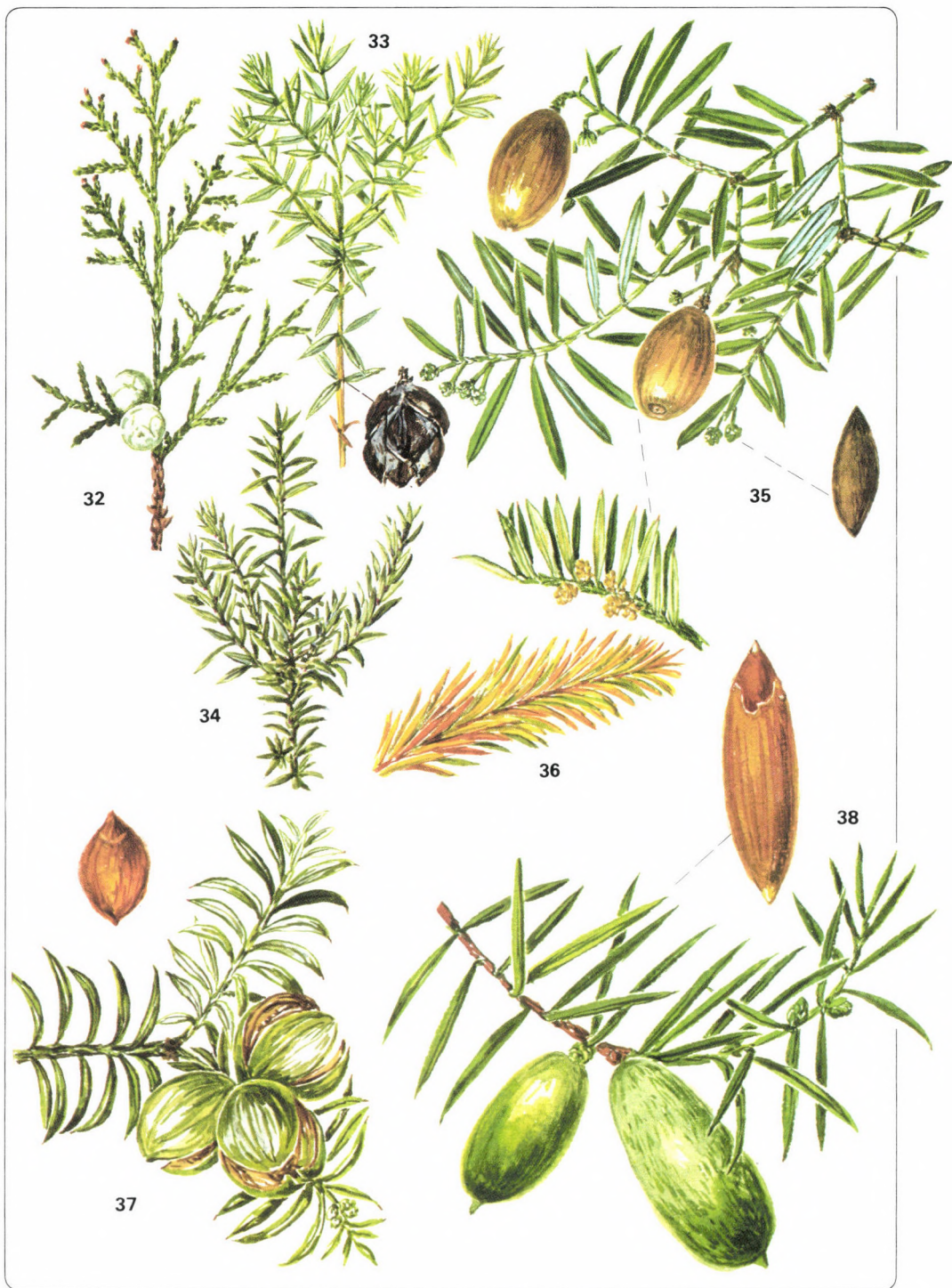


Plate 7

Dicotyledones — Dicotyledons

Salicaceae — Willow Family

- 39. *Salix alba* L. 'Tristis' —
Pendulous White Willow**
(*S.a.* var. *vitellina pendula* Rehd.)

One of the best known and most common trees in the gardens and parks of Hungary. Height of some 10–20 m. The long, yellow, pending branches form a broad arc. In fresh and wet soil it grows extremely fast, and tolerates occasional flooding quite well. Leaves come out quite early. With its pendulous branches it lends a special atmosphere to the garden or park.

- 40. *Populus simonii* Carr. —
Simon's Poplar**

Its native land is North China where it attains a height of 10–15 m; the crown is broad ovoid in outline. The pointed buds are covered by resinous substance of pleasant smell. The somewhat leathery, bright green leaves remain on the branches until late autumn. Being tolerant to polluted air it can be used for afforestation in industrial areas. The clone planted in Hungary is staminate in sex, which is favourable, since it does not contaminate its surroundings with seeds embedded in a cotton-like material. It requires much light, is moderately drought-resistant, develops well almost in any kind of soil. One of the finest poplars.

- 41. *Myrica pennsylvanica* Loisel. — Bayberry**
(Myricaceae — Sweet Gale Family)

It is a native of the north-eastern shores of the United States. A deciduous shrub reaching a height of 1–1.5 m. Leaves pubescent on both sides, glandular beneath, giving an aromatic smell when crushed. Dioecious flowers opening in March–April are rather insignificant, but fruits with a greyish white waxy coating remain on the branches for years. Pistillate specimens are therefore more valuable. A plant requiring much light and heat, and suitably planted in dry, sandy soil too.

- 42. *Pterocarya fraxinifolia* (Lam.) Spach —
Caucasian Wingnut**
(Juglandaceae — Walnut Family)

A 20–30 m high tree with a trunk divided into several stems at the base and a wide-spreading crown, occurring in the Caucasus and in adjacent countries to the south. Compound leaves 20–45 cm long and bright yellow when shedding. The flowers arranged on long racemes; the winged fruit attached to the branches long after defoliation are highly decorative. It prefers a humid soil and tolerates shade. Easy to reproduce by seed. In fresh soil it grows rapidly sometimes forming a dense group by the numerous suckers.



Plate 8

43. *Populus nigra* L. — Black Poplar

In Eurasia and North Africa it grows into a tree of some 25–30 m with a wide-spreading head. Trunk short, bark frequently with large burs. Branches

cylindrical, branchlets somewhat ribbed at the end. Growing fast in places with good water and nutrient supply, it is planted in many areas. It stands flood well, but places with stagnant water are to be avoided.

Juglandaceae — Walnut Family

44. *Juglans regia* L. — English Walnut, Persian Walnut

It is a native tree of South-eastern Europe and Asia Minor, but domesticated long since and widely naturalized in many other parts of Europe. A high tree of some 20–25 m with a broad oval head. Its light grey bark later becomes darker and furrowed. It is planted not only for its tasty fruit but also for its shade and fine shape. Prefers a deep-layered, not too moist soil rich in nutrients, and requires light and heat; late spring frosts sometimes damage the leaves and flowers. It is frequently planted in gardens, but other plants display a poor development—if surviving at all—under its crown.

45. *Juglans nigra* L. — Black Walnut

A 30–40 m high tree from the eastern parts of North America, with a big crown and 30–50 cm long pinnate leaves composed of 15–23 leaflets. Flowers insignificant. The deeply, irregularly ridged nut is 3–4 cm in diameter, covered in a green husk. The kernel is unpalatable but the timber is highly valued. Its requirements are similar to those of the previous species. A tree of extremely fast growth, a valuable park-tree. Leaves turn yellow before shedding.



Plate 9

**46. *Carya tomentosa* Nutt. —
Mockernut, Big-Bud Hickory,
White-Heart Hickory**

The native land is the eastern part of North America, where it grows into a 20–30 m high deciduous tree. Its timber is an extremely valuable basic material in

furniture manufacture. Shoots tomentose, leaves when crushed emitting a characteristic smell. It is also valuable as an ornamental tree since its large leaves turn into golden yellow and fall rather late in autumn. Husk thick, nut deeply fissured, kernel edible. Fresh soil rich in nutrients and plenty of sunshine are required; it is sensitive to late frosts.

Betulaceae — Birch Family

**47. *Ostrya carpinifolia* Scop. —
European Hop-Hornbeam**

A 10–15 m high deciduous tree with a roundish crown. Its native land is South Europe and Asia Minor. The leaves resemble those of true hornbeam. Its staminate catkins develop already in autumn. Inflorescence develops into fruiting clusters similar to those of hop. The sack-like, 1–2 cm long involucre hides cca. 0.5 cm long nutlets. It is drought-resistant; for this reason and owing to its beautiful crown and leaves it is a much favoured tree of parks.

**48. *Betula pendula* Roth 'Dalecarlica' —
Swedish White Birch**

It was discovered in 1767 in the southern parts of Sweden from where it came to our parks and gardens. Crown loose, bark white with pendulous branches, height 15–20 m. Leaves deeply lobed with a bright green shine. Develops very fast, with no particular requirements.

**49. *Betula papyrifera* Marsh. —
Canoe Birch, Paper Birch**

A 20–30 m high tree sometimes with several trunks and a roundish crown. Its native land is North

America. Bark—once used by the Indians to make canoes—whiter than in any other birch. Leaves 4–10 cm long acuminate, rounded at base, usually doubly serrate. In autumn the leaves are golden yellow. A fast developing tree with no particular requirements as to soil or climate. Its snow-white trunk and attractive crown make it a much favoured tree of parks and gardens.

**50. *Betula alleghaniensis* Brit. —
Yellow Birch**

It inhabits the eastern swamps and moist soils of North America. One of the highest birches reaching a height of 20–30 m. Crown broad pyramidal. Bark yellowish or greyish white flaking off in ring-like fashion. Mat, green leaves turning yellow in autumn. A valuable timber tree.

**51. *Betula pumila* L. —
Low Birch**

A shrub of about 1–2 m living on marshy, peaty, acidic soil in the north-eastern parts of North America. A dendrological rarity since—owing to its particular soil requirements—it is very difficult to grow elsewhere in Central Europe.

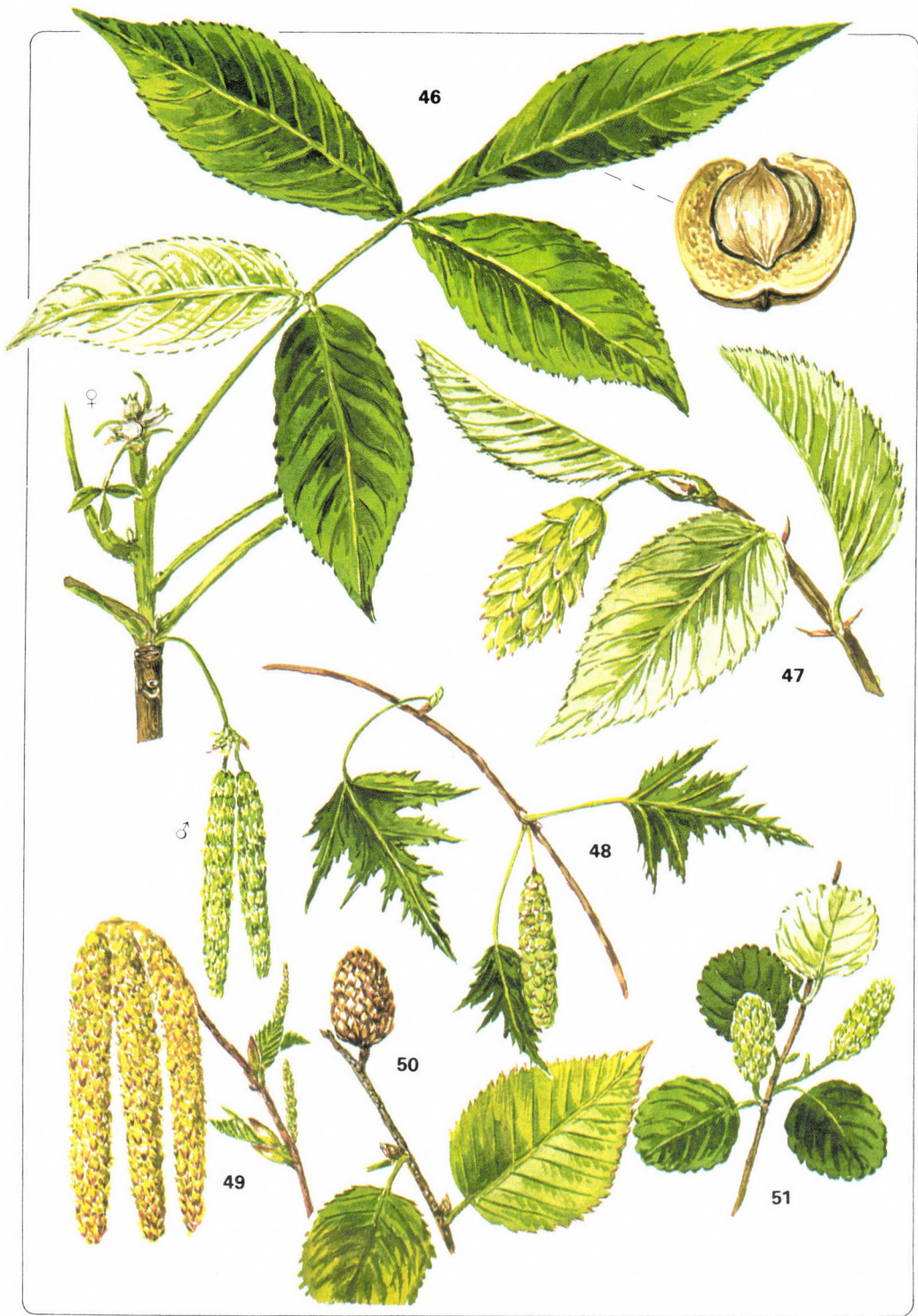


Plate 10

**52. *Carpinus betulus* L. —
European Hornbeam**

A 20–25 m high tree, a native of Europe and Asia Minor, quite frequent in the forests of Hungary; easy to recognize by its twisted grey bark. Head when young broad obovate, later wide-spreading. The greenish or reddish green shoots are dotted with lenticels. Leaves in autumn turning yellow; the dry leaves remain for a long time on the branches. It is therefore successfully used for shielding off snow or wind. Being tolerant to shade and pruning it can be trained into a hedge. In good quality soil may develop into a fine tree.

**53. *Betula pendula* Roth —
European White Birch
(*B. verrucosa* Ehrh.)**

Its native land is Eurasia. A deciduous tree reaching a height of some 15 to 20 m. Bark white. Though erect when young, later the long, thin branches bend down in broad arcs. The young shoots carry resinous glands, otherwise calvate. Leaves yellow in autumn. One of the most favoured and most decorative ornamental trees, developing very rapidly even on poor soil. Its snow-white bark is particularly impressive among evergreens and pines.

**54. *Carpinus orientalis* Mill. —
Oriental Hornbeam**

It inhabits South-eastern Europe and Asia Minor, in Hungary only found on the southern slopes of the Vértes Mountains. A shrub or small tree with a height of 4–5 m, giving off branches from the base of the trunk, shedding leaves in autumn. Leaves smaller than in the preceding species. Nutlets 3–4 mm long, sitting in irregularly elliptic or ovate cups. It requires a warm, sunny climate, with calcareous dry soil. Slow growing.

**55. *Corylus avellana* L. — European Hazel
(Hazelnut, Filbert)**

It lives in Europe and Asia Minor, very frequent in Hungarian gardens too; a 3–5 m high, rather big shrub, profusely branched from the base. Shoots glandular and pubescent. Though mostly planted for its very palatable fruit, it is also an excellent ornamental shrub because of its inflorescence opening very early—in February–March already. The long pendulous catkins laden with yellow pollen are the messengers of spring. It can be planted along the border-line of two plots to form a tall thick hedge impossible to look through. It develops well almost in any type of soil enduring even shaded places. Air pollution does not affect it.



Plate 11

56. *Corylus avellana* L. 'Heterophylla'

Its shape, development and requirements are identical with those of European Hazelnut, but the leaves are pinnately lobed and heavily pubescent. Owing to its beautifully shaped leaves it was welcome in gardens as early as at the beginning of the last century. Develops well even in shaded spots.

57. *Corylus colurna* L. — Turkish Hazel (Hazelnut)

A tree in South-east Europe and Asia Minor, of a height of 15–20 m, with a pyramidal head exfoliating in autumn. Bark light yellowish grey and deeply furrowed. Shoots glandular–pubescent, later becoming corky. Flowers come out at the end of February, beginning of March, when the 8–12 cm long staminate catkins are much frequented by bees. Its fruit is palatable, nut sitting in an involucre deeply fissured into linear recurved glandular lobes. It requires light and warmth, is resistant to drought,

survives even in poor soil. Owing to its euryoecic character and wonderful habit it is equally suitable as a tree used for avenues in towns or as one planted individually in parks.

58. *Corylus maxima* Mill. 'Purpurea' — Red Filbert

Its height is 3–5 m. Leaves dark red from coming out till falling; even its catkins are red. Its beautiful colour develops only in sunny spots. A much favoured member of groups of coloured shrubs. Owing to its large size it looks well in parks too.

59. *Alnus cordata* (Loisel.) Desf. — Italian Alder

A native of Italy and Corsica. A tall tree reaching 10–15 m, developing a thick ovoid head. Its young bare shoots are sticky. Owing to its leathery, glossy green leaves it is considered to be the most beautiful alder species. Tolerant to dry soil.



56



57



58



59

Plate 12

**60. *Alnus glutinosa* (L.) Gaertn. —
Black Alder,
Common Alder**

A native of Eurasia and North Africa, found mainly along water courses, frequent also in inundation areas. It reaches a height of 20–25 m, has a loose conical head, not infrequently develops several trunks. Lateral branches usually short and thin. Young branches glutinous. Leaves glossy dark green on the upper surface, when young viscid; the lower surface nearly entirely glabrous, with brownish tufts of hair only along the veins and in vein axils. Flowers open early in spring before leafing. Its round, though cone-like fruit remains for a long

time on the branch. Develops rapidly especially in swampy soil. It requires either sunny or half-shaded spots.

**61. *Alnus incana* (L.) Moench —
Speckled Alder, Grey Alder**

Eurasia is its native land. A 10–15 m high pyramidal headed tree, or a tall shrub. Branchlets pubescent when young, not glutinous. Leaves covered with soft hair on the lower surface. Flowers open even earlier than in Black Alder. It is calciphilous without any particular requirements, develops well even in less moist soil and half-shaded areas. Grows rapidly when young, later somewhat slower.

Fagaceae — Beech Family

62. *Fagus sylvatica* L. — European Beech

Its native land extends from Central Europe to the Caucasus. A deciduous tree with a dense foliage on spreading branches, which reaches a height of 20–30 m. Cylindrical trunk light grey, glabrous. Its long, spindle-shaped, pointed buds are characteristic. Lustrous dark green leaves turn yellowish brown in autumn. The insignificant flowers open in April–May. Involucre with upright soft prickles

enclosing the developing trigonal nuts which become ripe in October. It requires a calcareous, deep soil rich in minerals, with medium water supply, and a humid climate. Sensitive to late frosts. As one of the most beautifully shaped trees it has an important role both in forestry and landscape architecture. Under favourable conditions it can be trained into a hedge, all the more useful since the dead foliage remains on the branches shielding off wind and snow.



Plate 13

**63. *Fagus sylvatica* L. 'Atropunicea' —
Purple Beech**

Habit much like that of the common European Beech but leaves remain dark red from coming out till fall. A much favoured ornamental tree developing an imposing crown when it has enough space; its colourful foliage has a good effect among the green leaved trees.

64. *Fagus sylvatica* L. 'Asplenifolia'

Leaves lobed or incisedly serrate, lobes sometimes linear. Slower in development than the nominate species.

**65. *Quercus robur* L. 'Pectinata' —
Pectinated English Oak**

A small tree whose leaves are deeply lobed. The individual lobes are entire. A rare and valuable variety.

66. *Quercus libani* Oliv. — Lebanon Oak

Inhabiting Asia Minor, where it grows into a 8–10 m high densely branched tree, whose leaves fall in autumn. With its fine shape and lustrous dark green leaves an excellent ornamental tree. It requires a moderately dry, warm soil, and a sunny place. Slow growing.

67. *Quercus imbricaria* Michx. — Shingle Oak

Originating from the eastern parts of North America it grows into a 15–20 m high tree. When young its

head is pyramidal, later round-topped, spreading. Unlike most of the other oak species it has entire, lustrous leaves turning russet-red in autumn and remaining on the branches for a long time. It requires a medium heavy, fresh soil and plenty of sunshine. Though found in arboreta, and in parks with rarities among other plants still is not as widespread as it might be expected owing to its lovely green leaves resembling those of evergreens.

**68. *Quercus rubra* L. —
Red Oak
(*Qu. borealis* Michx.)**

A native of the eastern parts of North America. A tall tree reaching a height of 20–30 m with a round head. Its shapely leaves are lustrous dark green turning scarlet-red in autumn. Tolerant to air-pollution. It requires a fresh or moderately dry soil where it grows rather rapidly when young. It is an important species from both silvicultural and horticultural points of view.

**69. *Quercus macrocarpa* Michx.
var. *olivaeformis* (Michx. f.) Grey —
Bur Oak, Mossy-Cup Oak**

It inhabits the north-eastern regions of North America and the environs of Hudson Bay where it develops into a 15–20 m high tree with spreading head. Leaves and olive-shaped acorns smaller than those of the nominate species. It is a rare variety, encountered only in a few arboreta. Due to its beautifully shaped leaves it attracts attention.

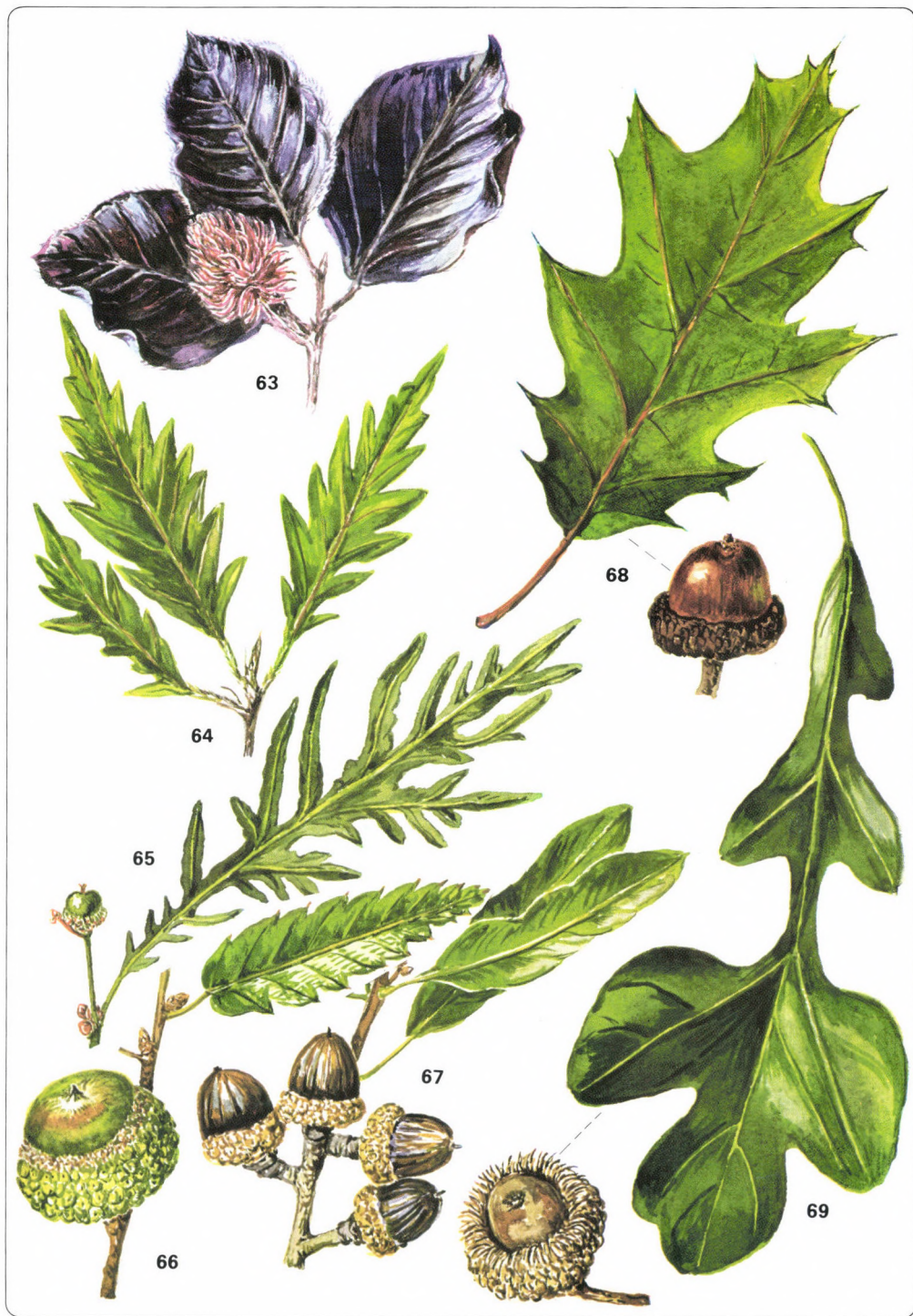


Plate 14

**70. *Quercus cerris* L. —
Turkey Oak**

Its native land is Asia Minor and South, South-Central Europe. Its broad pyramidal crown reaches 25–30 m, though under a cool climate it is only a large shrub. Its leathery foliage is dark green very suitable for wreaths. In autumn the dry leaves remain attached to the branches thus serving as a good wind and snow shield. It requires a fresh or moderately dry soil. It is comparatively rapid in growth when plenty of light and heat are available.

**71. *Quercus farnetto* Ten. —
Hungarian Oak**
(*Qu. frainetto* Ten., *Qu. conferta* Kit.)

Its native land is South-eastern Europe and Asia Minor, occurring sporadically also in Hungary. A 20–30 m high tree with an initially ovoid later spherical head. Leaves doubly lobed, densely pubescent on the lower surface. It requires a warm, calcareous, dry soil, a sunny spot facing south. It grows comparatively rapidly. A valuable park tree since its leaves are the most beautiful in shape among the European oaks.

72. *Quercus palustris* Moench — Pin Oak

It is a native tree of the eastern parts of North America where it reaches a height of 20–30 m developing a broad pyramidal head. Bark remains smooth for quite a long time. The glossy vivid green leaves turn reddish in autumn. The small, scarcely 1–1.5 cm long acorns developing in the second year are covered to one-quarter by a flat, saucer-like cup. It develops well not only in wet and moist soil but also in drier habitats. Needs plenty of light.

**73. *Castanea sativa* Mill. —
Spanish Chestnut, European Chestnut,
Sweet Chestnut**

Native of South Europe, Asia Minor and North Africa. It grows into a 25–30 m high tree with a large spreading head. The highly palatable nuts provide the principal reasons why it is extensively cultivated, though it is also much favoured as an ornamental tree owing to its beautiful glossy dark green foliage and shapely head. It requires a moderately compact, deep-layered, slightly acidic soil, plenty of sunshine and heat, although when young tolerates half-shaded spots. A long since cultivated plant often reaching a great age.



Plate 15

Ulmaceae — Elm Family

- 74. *Ulmus minor* Mill. — Smooth-leaved Elm**
(*U. carpinifolia* Gleditsch,
U. campestris L. em. Huds. p. p.)

Native of Central and South Europe, North Africa and West Asia. A tree of 20–30 m in height with an ovoid head formed by thick branches. Branches and branchlets often have corky wings. Lower leaf surface glabrous save axillary tufts, very oblique at base. Its bisexual flowers open before leafing, in March–April. Seed enclosed in a membrane. It requires a fresh, medium heavy soil rich in nutrients; does not stand much shading. Thermophilous, quick in development, unfortunately rather sensitive to elm-disease. Old specimens are therefore less and less frequently encountered; it is not even planted any more.

- 75. *Ulmus laevis* Pall. —
European White Elm, Fluttering Elm**

Its native land is in Central and South-eastern Europe, and the Caucasus, where it grows into a 20–30 m high rather spreading tree. Leaves oblique at base, obovoid in outline with soft hairs on the

lower surface. Flowers bloom in March–April. In the fruit the seed is found in about the middle of the wing. It requires a deep-layered, wet or fresh, calcareous soil rich in nutrients. Shading does not much affect growth. More resistant to elm-disease than the previous species, beautiful specimens are therefore encountered more frequently.

- 76. *Ulmus procera* Salisb.
'*Argenteovariegata*' —
Variegated English Elm**

A 15–20 m high tree, leaves striped and white spotted. Sensitive to elm-disease, consequently seldom planted, and rarely encountered.

- 77. *Zelkova carpinifolia* (Pall.) K. Koch**

Its native land is the Caucasus where it grows into a 15–20 m high tree with an ovoid or ellipsoid head. Slightly coarse leaves become yellow in autumn and fall. Flower and fruit are not attractive, but the shapely head and the beautiful leaves render it a valuable ornamental tree.

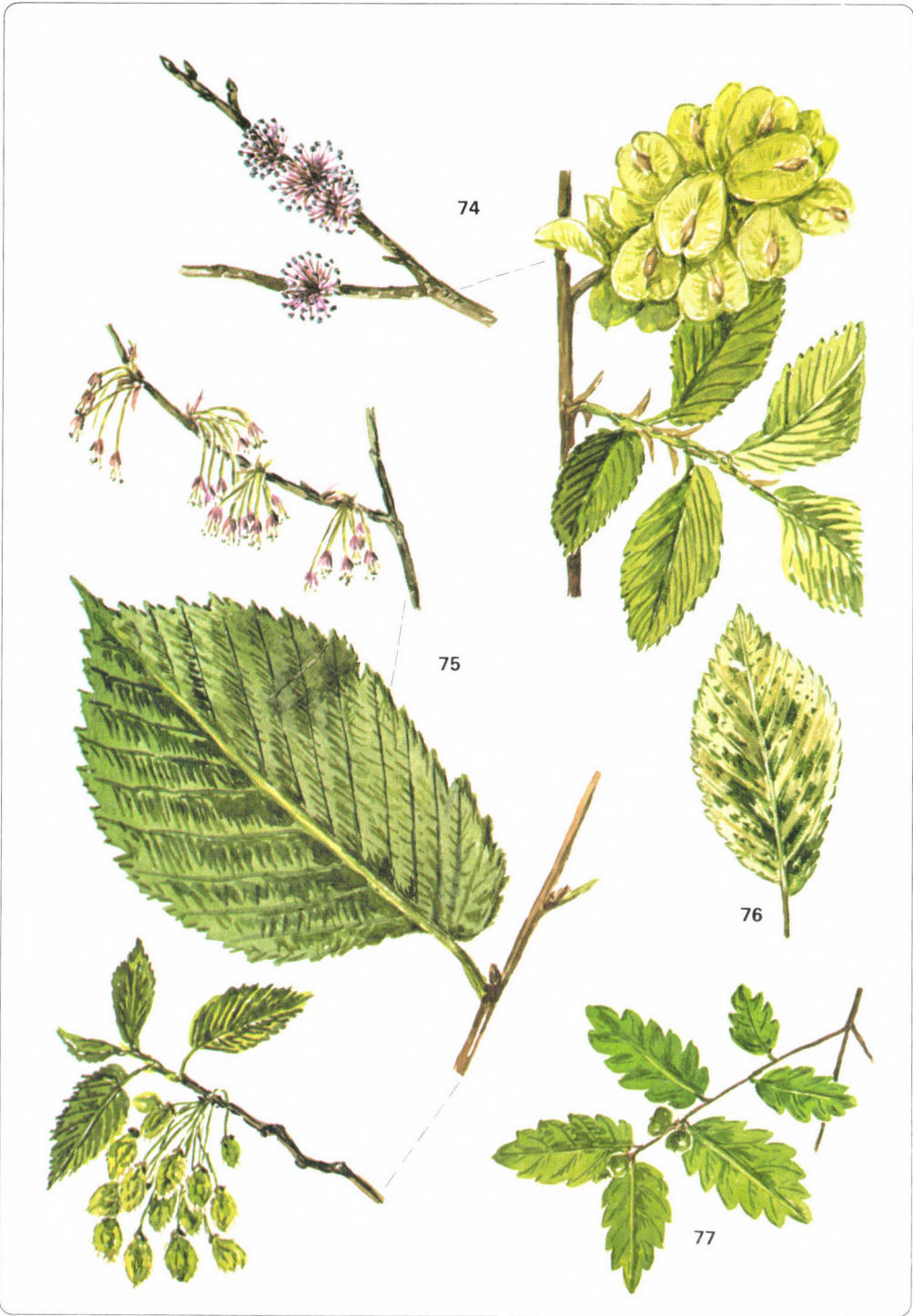


Plate 16

78. *Celtis tournefortii* Lam.

It grows wild in South-eastern Europe and Asia Minor. A small tree of 4–6 m or a mere shrub with bluish or greyish green leaves. Unlike the other *Celtis* species it has yellow fruit. It requires dry soil and a warm, sunny spot. A dendrologically interesting species.

79. *Celtis occidentalis* L. — Hackberry

It originates from North America. A 20–25 m high deciduous tree with a big crown. When young its bark is smooth later becoming scabrous. The long, thin branches are arcuately pendulous. Leaves glabrous on the lower surface, pubescent only along veins; colour turning yellow in autumn. Leafing and flowering occur simultaneously; the greenish flowers are insignificant. Fruit thin, sweet-

ish, stone pitted; former becoming ripe in October is a much liked food for birds. It develops well in any type of soil, except extreme conditions. When young tolerant to shade, later requires light. Frequently planted in avenues since it stands air-pollution and drought quite well and is resistant to diseases.

80. *Celtis australis* L. — Nettle-Tree

Its native land is South Europe, North Africa and West Asia. It grows into a tree of 15–20 m with a spreading head; bark smooth even later. Leaves densely pubescent on the lower surface. Needs light and warmth, frost-sensitive when young. It requires moderately dry, calcareous soil. Slow of growth. Tolerant to urban conditions but better be used for avenues in countries with hot summers and less cold winters—like in the southern parts of Central Europe.

Moraceae — Mulberry Family

81. *Morus rubra* L. — Red Mulberry, American Mulberry

A 10–15 m high deciduous tree in the central and eastern parts of the United States of America. Head spherical, flat at the top. Leaves of various shape,

turning golden yellow in autumn. Its insignificant flowers bloom in May. The tasty, dark red fruit, once used to feed animals ripen in July–August. Soil rich in nutrients and a warm spot with plenty of sunshine are necessary conditions.

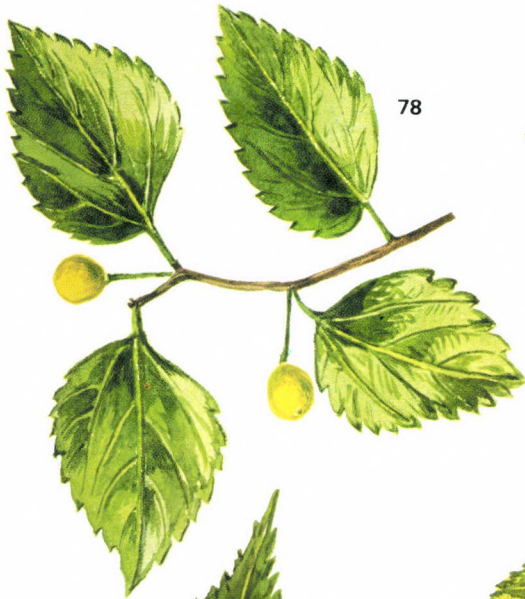


Plate 17

82. *Morus alba* L. — White Mulberry

Its native land is Central and East Asia. A 10–15 m high tree with a round head whose young yellowish grey branchlets are thin and glabrous. Leaves undivided but in young plants or shoots deeply 3–6-lobed. The leaf blade is thin, glabrous both on the upper and lower surface; pubescent at most along the veins of the latter. Insignificant flowers bloom in May. The white, red or blackish purple sweet fruit ripens in July–August. An euryoecic plant, survives almost anywhere, though preferring a sunny and warm place. Earlier it was planted along roads especially for its fruit and leaves suitable for feeding silk-worm. Being one of the major host plants of fall webworm, it is seldom planted today.

83. *Morus nigra* L. — Black Mulberry

A tree of 6–10 m with a flattened spherical head, or a densely branched shrub from West Asia. Branches short frequently forking, thick; shoots yellowish brown, pubescent when young. Its thick, leathery leaves mostly entire, though sometimes deeply lobed; dark green, scabrous on the upper and lighter and pubescent at least along the veins on the lower surface. Fruit long dark red and juicy, pleasantly acidic becoming ripe in August. Worth planting in warm, sheltered, sunny places with a soil rich in minerals. It grows slowly. Usually planted for its fruit, chiefly in South Europe.



Plate 18

- 84. *Maclura pomifera*** (Raf.) Schneid. —
Ossage-Orange
(*M. aurantiaca* Nutt.,
toxylon pomiferum Raf.)

A deciduous tree of 8–10 m with a loose crown, or a tall shrub of the southern parts of North America. Shoots and branches spiny, leaves dark green viscosing milky substance when crushed. Insignificant flowers dioecious, opening in May–June. Fruit orange-like, covered in a green mamillate rind, ripe in September–October. No special preference for type of soil, develops well almost anywhere without much water. A heliophyte, rather thermophilous in nature. Owing to its thorny branches often used as a hedge plant to mark the border of a plot.

- 85. *Cudrania tricuspidata*** (Carr.) Bureau

Native in East Asia where it is a high deciduous shrub or in a warmer climate a small tree reaching a height of 6–8 m. Branches glabrous with slender 1–3 cm long thorns developing at the bases of

leaves. Leaves frequently three-lobed at the apex. Flowers insignificant. Syncarp globose 2.5 cm in diameter, orange-yellow, edible. In normal garden soil, in a sunny spot it develops well. It is interesting rather than of ornamental effect.

- 86. *Broussonetia papyrifera*** (L.) L'Hérit. —
Paper-Mulberry

Its native land is in East Asia, where it develops into a 10–15 m high tree. In Europe it is mostly smaller, sometimes only has the habitus of a shrub. Branches covered by long, soft hair. Leaves 10–20 cm long, varying in shape, the flowering specimens have entire leaves, while the leaves of young plants are deeply lobed. Insignificant flowers bloom in May. Spherical fruit edible, ripe in September. It requires a light soil rich in minerals, and a warm spot. When young sensitive to frost, under optimum conditions fast growing. The varying shape of leaf and the colourful fruit make this tree highly decorative. Since the species is dioecious fruit can only be expected when staminate and pistillate specimens live near each other.



Plate 19

Aristolochiaceae — Birthwort Family

- 87. *Aristolochia durior* Hill —
Dutchman's Pipe, Pipe-Vine**
(*A. siphon* L'Hérit.)

It originates from North America; a twining, deciduous shrub of 8–10 m. Stem remains green for several years. The pipe-like bent flowers bloom in

June–July. Fruit 6–8 cm long, multi-celled, capsule with 6 ridges dehiscent into 6 valves. In a fresh soil rich in minerals it develops rapidly. In half-shaded places or sunny spots it grows fast. Trellised plants make a good impression. The large leaves give a deep shade.

Polygonaceae — Buckwheat Family

- 88. *Reynoutria aubertii* (L. Henry) Moldenke —
China Fleecy-Vine, Silver Lace-Vine**
(*Polygonum aubertii* L. Henry)

It is a native of the western parts of China; a twining, richly branching, very rapidly growing shrub attaining a height of 10–15 m. The white or greenish white flowers open from August till

October. Seeds rarely produced. A plant without special requirements, living almost anywhere. Very rapid in growth, used mainly to cover ruins and dry trees. When trained to wire-fences it forms a beautiful green "wall", but needs trimming. Latter neglected its weight may break the fence. A valuable plant since its flowers bloom at the end of summer and in autumn.

Cercidiphyllaceae — Cercidiphyllum Family

- 89. *Cercidiphyllum japonicum* Sieb. et Zucc. —
Katsura-Tree**

A native of Japan, where it grows into a tree of some 30 m in height; in Europe, however, it is only 10–12 m. A tree mostly with several trunks and a broad pyramidal head composed of densely set branches and thin shoots. Leaves when coming out reddish, in autumn yellow. Its dioecious flowers

open in April, before leafing. The 1.5–2 cm long pods ripe in October; tiny brown, winged seeds are found in them. It requires a medium heavy fresh soil rich in nutrients, and plenty of sunshine, though subsists in half-shaded places. A valuable park tree with a fine shape and colourful foliage which when shedding give off an odour much resembling a freshly baked roll.

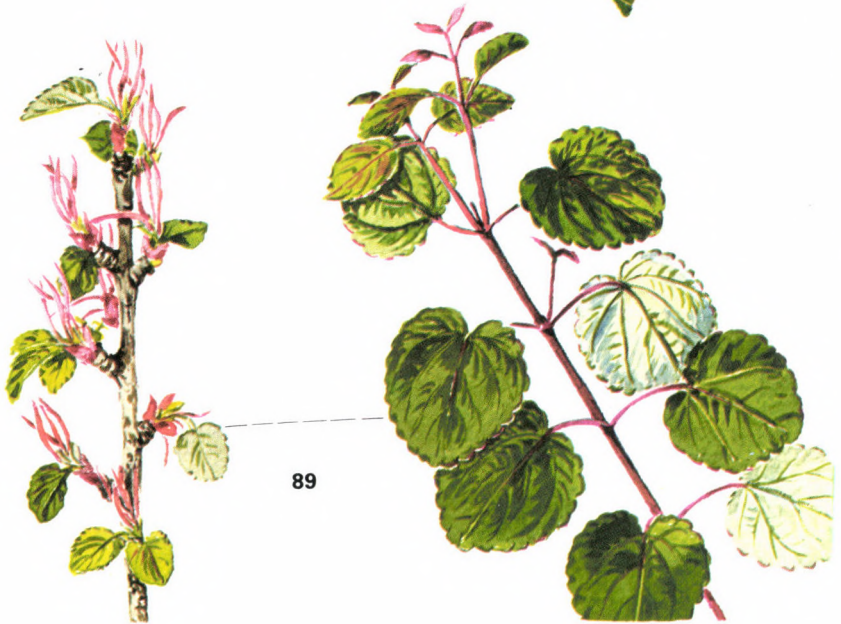


Plate 20

Paeoniaceae — Peony Family

90. *Paeonia suffruticosa* Andr. — Tree Peony
(*P. arborea* Donn)

From North-western China, its native land, it was introduced long ago into many countries in East Asia; numerous varieties have since been cultivated. Brought into Europe at the end of the 18th century it soon became a much favoured species. Height only 1–2 m. Variedly coloured terminal flowers of 10–30 cm in diameter, bloom in May. It is one of our biggest flowered and most beautiful shrubs with a wide range of varieties, simple, half full and full-flowered forms in all shades of white, pink and red. When planted in a sunny place with fresh soil rich in nutrients it brings flowers every year regularly and abundantly.

91. *Paeonia lutea* Delavay ex Franch.

A small shrub with a height of 1–1.5 m, originating from South China. Flowers yellow, blooming in June. Owing to its beautiful colours it was frequently used in improving peony. Since, however, frost-sensitiveness was also transmitted in most cases, not only the nominate species but all its varieties should be covered in the northern part of Central Europe for winter. It requires humous, fresh soil rich in minerals and a sunny spot.



Plate 21

Ranunculaceae — Buttercup Family

92. *Clematis alpina* (L.) Mill.

A climbing or prostrate subalpine shrub found from Central and South Europe to the north-eastern parts of Asia. Blooming in May–June and several times later in summer. Achenes 2–3 cm long feathery with a few plumose styles. It should be planted into a not too dry, calcareous soil in a half-shaded place with humid atmosphere. In larger rock-gardens under wide spaced trees, or on big stones a very decorative plant overgrowing the soil surface rather than climbing upwards.

93. *Clematis viorna* L. — *Viorna*

Climbing shrub of 2–3 m in the eastern parts of North America. Leaves composed of 5–7 foliolates, those beneath the flowers simple. Flowers open from May till July. Achenes with plumose styles brown in colour. It requires a sunny or half-shaded dry place.

94. *Clematis viticella* L.

A native of South Europe and Asia Minor. It is a twining climber up to 3–4 m, sometimes with pinnate but usually bipinnate leaves of 3–5–7 foliolates each. Flowers bloom from May until August in great masses. Achenes with glabrous and short styles. It requires water-permeable soil rich in nutrients, a half-shaded or only partly sunny spot. A shrub with beautiful flowers often used to produce large-flowered varieties by crossing. In ornamental gardens it is usually planted to grow over trellises, pergolas, wire fences.

95. *Clematis viticella* L. '*Kermesina*'

This variety is similar in all characteristics to the nominate species but the flowers are bigger and wine-red. It produces a profusion of flowers.



Plate 22

96. Clematis × jackmanii T. Moore
'Comtesse de Bouchaud'

It is one of the most beautiful varieties of garden virgin's bower producing flowers from June till October. It requires a loose, well drained, fresh soil rich in minerals, humid climate and half-shaded spots. Strong insolation should be avoided. Since it brings its beautiful flowers on the new shoots, part of the last year's branches had better be cut back to 50–60 cm early in spring so as to obtain a sufficient number of new shoots.

97. Clematis montana Buch.-Ham.
'Rubens'

A native of China; it climbs up to 8–10 m branching profusely, a very rapidly growing shrub. The tip of the shoots and the young leaves are brownish red. Mildly odorous flowers open in masses on previous year's woody branchlets in May–June. Thus, when cut back severely it produces scarcely any flowers

next year. Soil with good water supply, rich in nutrients and a sunny place are required.

98. Clematis serratifolia Rehd.

It is a native of Korea; a climber of 2–3 m with 2–3-lobed leaves. Flowers slightly odorous, yellow, dangling; open in August–September. Decorative fruit continuing in a long, plumose, silvery style. It requires a sunny place with good soil.

99. Clematis patens Morr. et Decne.
'Marcel Moser'

A woody climber of 2–3 m with large flowers. Latter open in May–June, occasionally still later. Requirements as far as soil and place are concerned are the same as in No. 96. Flowers are borne on the lateral shoots of older branches, so it should not be pruned. In case it is unavoidable, let us do so soon after flowering.



Plate 23

100. *Clematis tangutica* (Maxim.) Korsh. — Golden Clematis

A native of Mongolia and the north-eastern parts of China, where it is a woody climber of 2–3 m. Its dangling flowers bloom in May, then later in September. The silvery tufted fruits compose a cotton-like group which are attractive even after the falling of leaves. It brings a profusion of flowers; the most beautiful yellow-flowered *Clematis* species. It has no special requirements as far as the soil conditions are concerned, and is resistant to drought. Very suitable to cover the soil in larger rock-gardens and on banks; and even climbs—though not too high. Sunny spots meet its demand.

101. *Clematis* × *jackmanii* T. Moore

It was produced by crossing *C. lanuginosa* and *C. viticella* in the middle of the last century and has ever since been one of the most favoured varieties

among clematises. Climbing with its stem and twisting leaf-petioles it may reach as high up as 3–4 m. Flowers usually in threes bloom profusely from June till October. Fruit also attractive. It requires a not too wet soil with good water supply and abundant nutrients, a humid climate, and places with plenty of light but protected from strong sunshine. Being somewhat frost-sensitive under cold climate it requires covering at the base during winter. A large number of varieties are known.

102. *Clematis montana* Buch.-Ham.

Its native country is the region of the Himalayas to Central and West China. The twining stem may climb up to 8–10 m. Flowers white, slightly odorous covering almost the entire plant in May–June. It is extremely rapid in development, frost-resistant. Subsists on any better quality soil, but dry places are not good for its development. A photophilous plant.

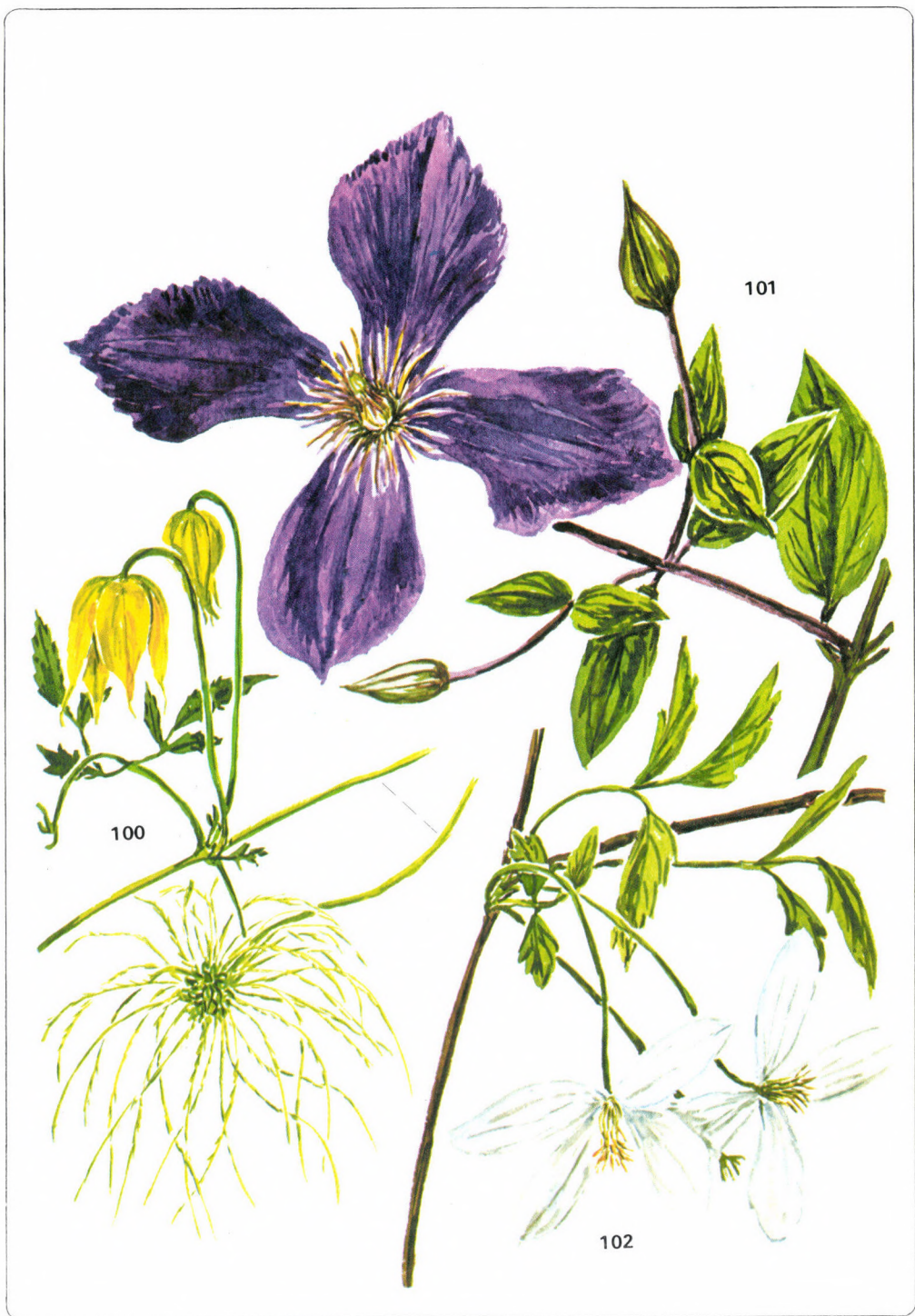


Plate 24

Lardizabalaceae — Lardizabala Family

103. *Akebia quinata* (Houtt.) Decne.

A twining shrub, native of East Asia; it climbs up to 8–10 m; under less extreme climatic conditions, in a sheltered spot, in half-shade is evergreen or green in winter, elsewhere it is deciduous. Its compound palmate leaves are also decorative, but the odorous peculiar flowers deserve special attention. Staminate and pistillate flowers opening in May differ in size and colour. Fruit ripe in autumn, also attractive. Not too wet soil, sunny or half-shaded place are necessary conditions. Frost-sensitive when young, later winterhardy. A rapidly growing plant.

104. *Decaisnea fargesii* Franch.

It is a native of West China, a deciduous shrub of 3–5 m with sparse branches. Stronger branches and shoots are bluish pruinose. The peculiarly formed flowers open in June. Its tasteless fruit—consumed in China—ripe in October. It requires a fresh soil rich in minerals, a warm, sunny, sheltered place. Being frost-sensitive when young needs covering in winter. A dendrologically interesting plant occasionally encountered in Hungarian arboreta. Its pod-like fleshy fruit is particularly showy on the leafless shrub.

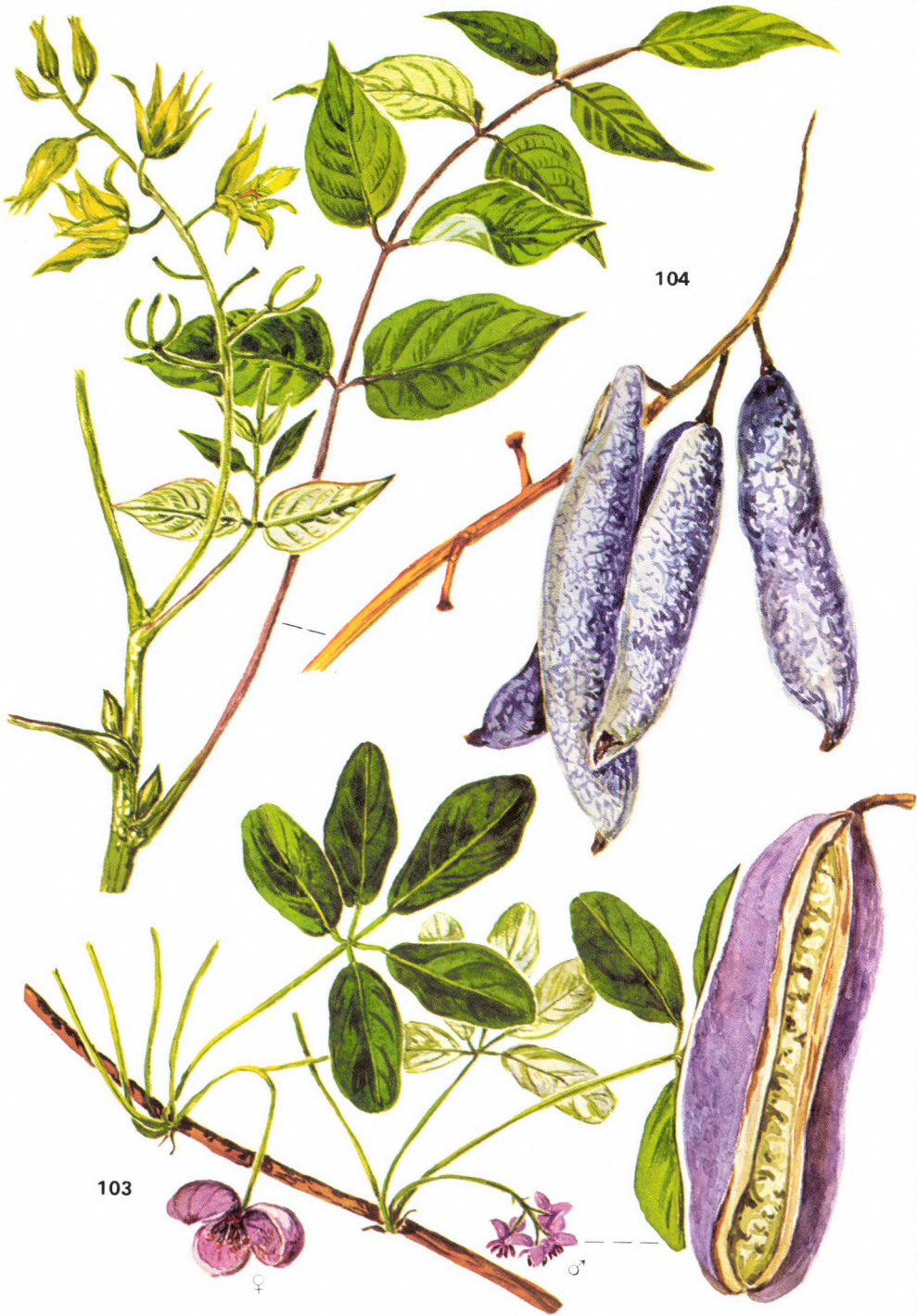


Plate 25

Berberidaceae — Barberry Family

105. *Mahonia bealii* (Fort.) Carr.

A native of China, sometimes 2–3 m though mostly smaller; a shrub with rigid upright branches, evergreen leaves, fragrant yellow flowers and pruinose bluish fruit. Flowering time in March to May, while the fruit embellishes the thick branches from July till September. It should be planted singly or in small groups in sheltered, half-shaded places. Under colder climates not only the leaves but also some of the branchlets may become frost-bitten as a consequence of winter sunshine. It likes fresh but does not stand too wet soil.

106. *Mahonia repens* (Lindl.) G. Don

A native of the western parts of North America where it attains a height of 20–60 cm; an evergreen shrub. Leaves dull bluish green on the upper and greyish or bluish green on the lower surface. Its golden yellow flowers bloom in April, fruit pea-sized, a bluish pruinose black berry. It frequently occurs that a part of the garden cannot be covered with grass since the soil is of a poor quality or shaded. These places are best planted with this *Mahonia* species because this low suckering shrub will soon thickly cover the ground. It thrives both in sunny and shaded places. Not susceptible to frost,

even the leaves remain green in autumn. A plant with very moderate requirements, though not too resistant to drought.

107. × *Mahoberberis neubertii* (Lem.) Schneid.

It is a hybrid of *Berberis vulgaris* and *Mahonia aquifolium*; a shrub of 1–1.5 m, scarcely branched, with a loosely arranged foliage. In mild winters the leaves overwinter with their dark green colour, or even frost-bitten remain on the branchlets as long as until spring. Neither flowers nor fruits are produced. As a hybrid produced in the early 1850's by crossing species of different genera, it is a plant of dendrological interest; extraordinary rather than beautiful.

108. *Berberis vulgaris* L. 'Atropurpurea' — Purple Common Barberry

A shrub of 2–3 m; with its reddish foliage it makes the garden more colourful. The yellow flowers bloom in May, the decorative red fruit remains on the shrub from August till October. Drought-resistant with moderate requirements. Its beautiful colour is most effective in sunny places.

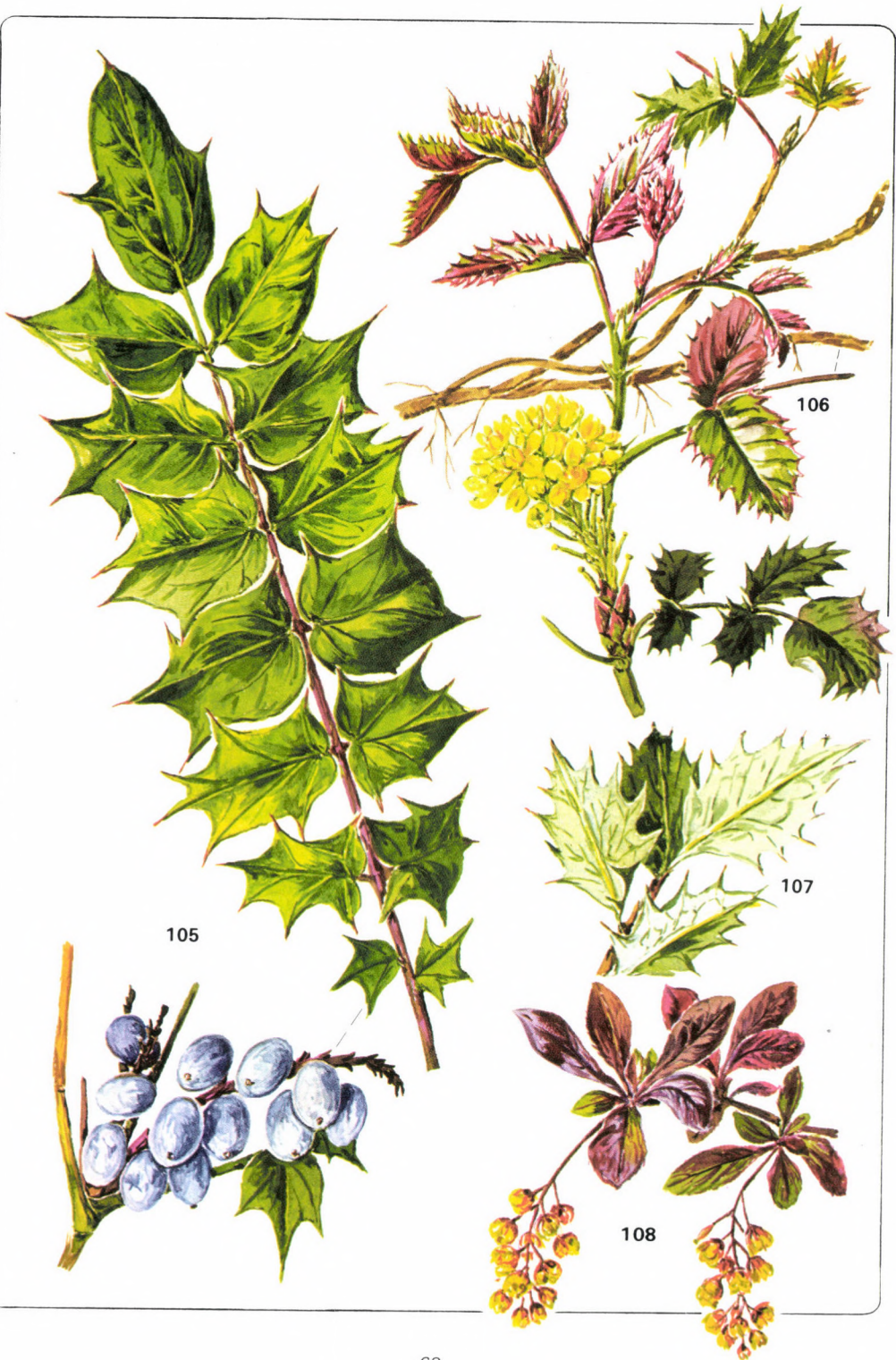


Plate 26

**109. *Berberis thunbergii* DC.
'Atropurpurea' —
Purple Japanese Barberry**

It is the most favoured red-leaved shrub introduced in 1887 by Léon Chenault in France. A thickly branched shrub of a height of 1–1.5 m. Leaves entire, colour changes in autumn to carmine red. Its red, bead-like fruit of 1 cm remain attached even after the fall of the leaves. Very moderate in its demands, though not too tolerant to drought; highly decorative from spring till autumn.

**110. *Berberis julianae* Schneid. —
Wintergreen Barberry**

A native of Central China attaining a height of 2–2.5 m, densely branched, perhaps one of the best known representatives of the evergreen *Berberis* species. The leaves are coriaceous, the shoots and branches armed with three-parted, rigid spines. When planted in a sunny place some of the leaves turn orange yellow and red in autumn. The golden yellow flowers bloom in May. It should be planted in sunny or half-shaded spots in fresh soil rich in mineral resources. Not sensitive to cold climate.

111. *Berberis dictyophylla* Franch.

It originates from the western parts of China; a shrub of 1–1.5 m in height whose reddish shoots and the lower surface of the leaves are covered with intensive white bloom. Leaves change colour to red in autumn. Its mostly solitary flowers are pale

yellow, 1.5 cm in diameter; fruit also bloomy remaining attached to the branches until the middle of winter. It should be planted in sunny places, in a moderately dry soil.

112. *Berberis mouillacana* Schneid.

It was transported to Europe in 1908 from the south-western parts of China; a deciduous shrub of 1–1.5 m with reddish shoots while young. Its ornamental value and requirements are the same as those of the species above.

113. *Berberis sargentiana* Schneid.

A native of Central China with a height of 2 m. An evergreen shrub with similar requirements as those of *B. julianae*, though somewhat more sensitive. In Europe it grows to 1.5–2 m. The leathery leaves fall in severe winters. Its pale yellow flowers open in May.

**114. *Berberis gagnepainii* Schneid.
var. *lanceifolia* Ahrendt**

An evergreen shrub of loose habit reaching a height of 1–1.5 m. The lanceolate leaves are dull greyish green with revolute margins, frequently twisted. Golden flowers set in dups come out in May. As a hardy evergreen it is much valued. Similarly to other *Berberis* species and varieties originating from China its cultivation for ornamental purpose was started at the beginning of this century.

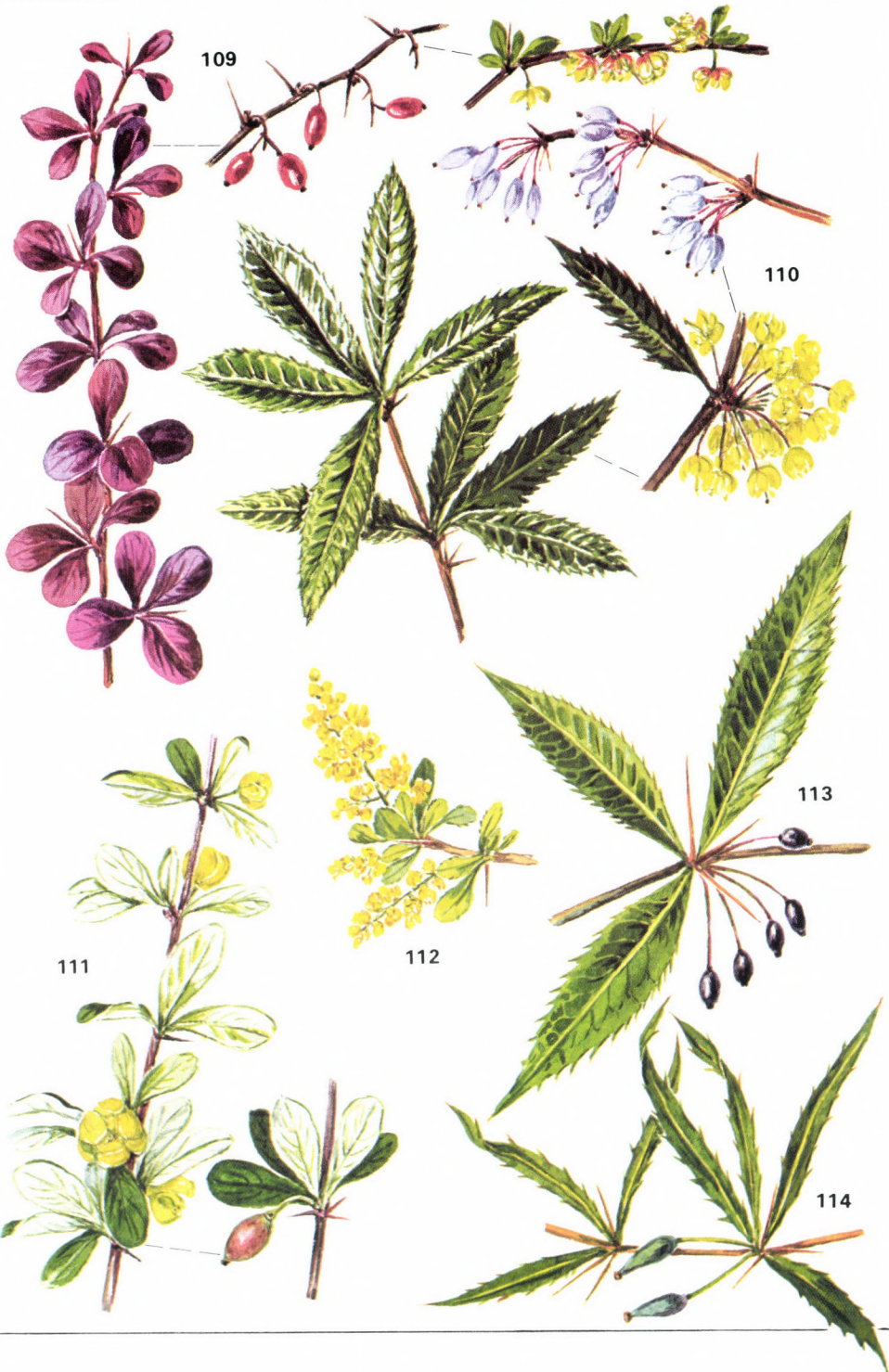


Plate 27

115. *Berberis wilsoniae* Hemsl. et Wils.

A deciduous shrub from West China; 1 m high, densely branched; shoots with numerous spines. Small leaves turn scarlet-red in autumn and remain attached for quite some time. Its yellow flowers open in May–June. The light-coloured fruit later turns darker and remains on the branches until spring. Though a valuable ornamental shrub, it is not widely known and planted as yet. It has no particular demands on soil, is moderately drought-resistant and requires light.

116. *Berberis candidula* Schneid.

It came from Central China; a wide-spread evergreen shrub with an ovoid head, very compact in habit. Its pendulous branches bring solitary flowers in May. The bluish black bloomy fruit is 5 mm in diameter. Very effective when planted in slopes, rock-gardens next to evergreen shrubs. It develops rather slowly. Requirements as at *B. julianae*.

117. *Berberis chinensis* Poir.

The name is rather misleading since its native land is in the Caucasus. A deciduous, 2–3 m high shrub. Flowers open in May, fruits bloomy red, 1 cm long remaining on the branches for a long time. Its requirements are very moderate; drought-resistant.

118. *Nandina domestica* Thunb.

An evergreen shrub with upright branches growing from base. Leaves 30–50 cm long turn purplish red in autumn. In Central Europe it overwinters in sheltered site only. The 6 mm long, white flowers arranged in upright 20–35 cm long panicles bloom in June–July. Fruit globular, pea-like and red. Its native land is China, but in Japan it also has long since been cultivated, and the fruited branches used for ornamental purposes in homes and shrines. It is also kept in pots. Unfortunately in a large part of Central Europe it cannot be cultivated outdoors.

Menispermaceae — Moonseed Family

119. *Menispermum canadense* L. — Common Moonseed

A thin, finely pubescent climber of 2–4 m, originating from North America. The small flowers open in May–June, fruit bluish black ripe in autumn. It requires a fresh soil in a half-shaded spot. Suitably trained on wire fences or wooden lattice-work.

120. *Menispermum dauricum* DC.

Very similar to the previous species but its shoots are glabrous, leaves lobed and it is creeping. A species from East Asia.

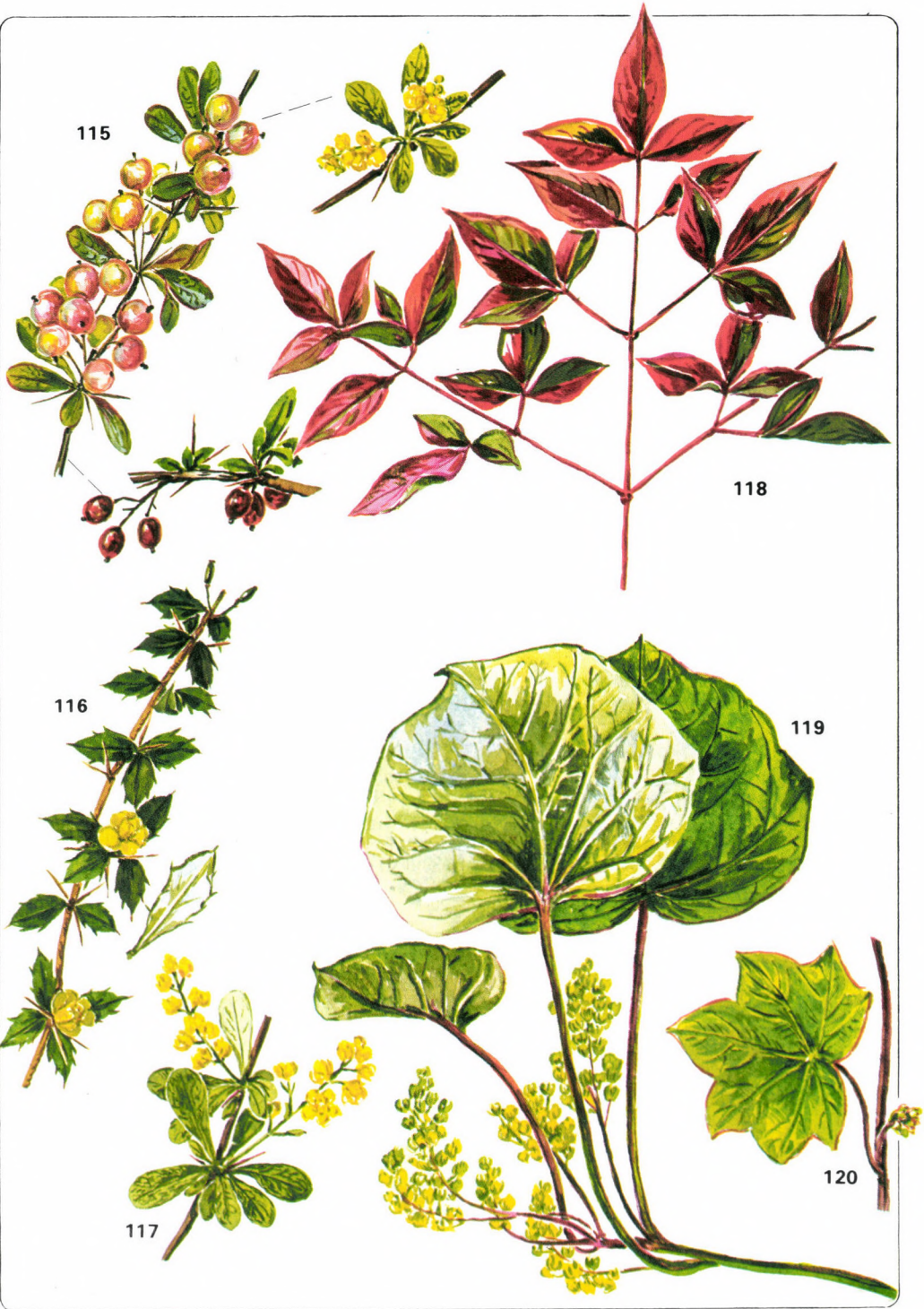


Plate 28

Magnoliaceae — Magnolia Family

121. *Magnolia kobus* DC.

A native of Japan, rapid in development with a loose crown; a large shrub or small tree. Its upright, cupuliform or star-like flowers open before leafing, usually in March–April. While young, it produces scarcely any flowers if at all, later these are white and occasionally cover the entire shrub. Its 10–20 cm long, cylindrical fruit-clusters are red and very decorative. Like the other *Magnolias* it requires a medium heavy, fresh, slightly acid soil rich in mineral resources. In calcareous soil the leaves turn yellow and the plant develops rather weakly. It should be planted in sunny or half-shaded, sheltered places, when possible with dark green shrubs in the background since its flowers stand out best with such surroundings.

122. *Magnolia kobus* DC.

var. **stellata** (Sieb. et Zucc.) Blackburn —
Starry Magnolia

A shrub native of Central China; smaller than the previous species, reaching a height of at most 2–

3 m. Its fragrant, white flowers appear on the branches in March–April. Though slow in development it brings even while young a profusion of flowers which are white and star-like. The red fruit becomes ripe in September–October. Requirements as in No. 121.

123. *Magnolia tripetala* L. — **Umbrella Magnolia, Umbrella-Tree**

A 10–12 m high tree in the south-western parts of the United States; in Europe only a shrub with wide-spreading branches, or a small tree. The 25–50 cm long and 10–15 cm broad leaves at the tips of the shoots spread umbrella-like (hence its vernacular name). The large, white flowers of unpleas- ant smell open after leafing in June. The pinkish fruit-clusters are attractive in autumn. It is the most beautiful *Magnolia* species as far as foliage is concerned. Owing to its large leaves it has to be planted in places sheltered from the wind; but demands sunshine and sufficient space.

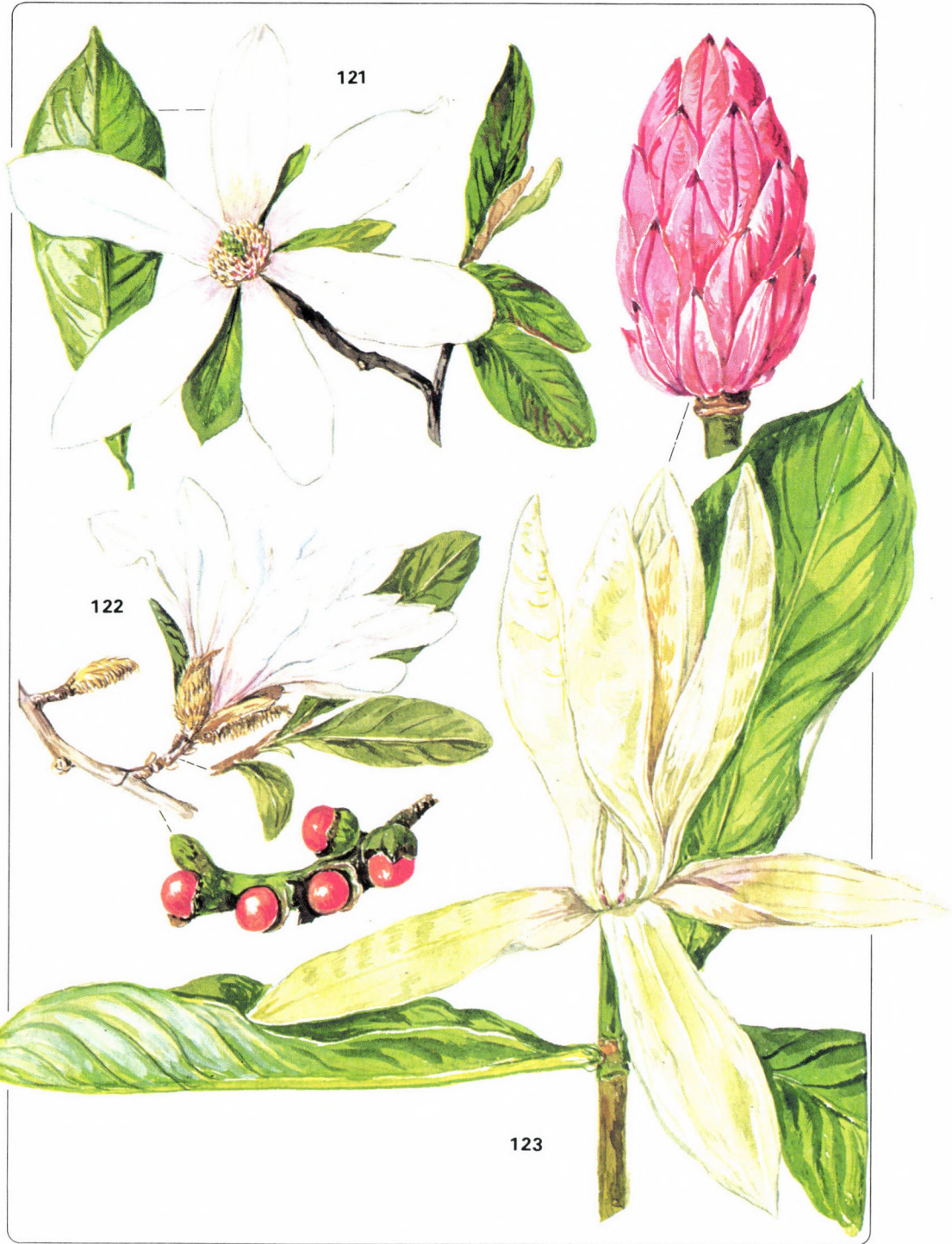


Plate 29

124. *Magnolia liliiflora* Desr.

It is a native of China, a thinly branched shrub of 2–3 m. The opening of its large, colourful, campanulate flowers is simultaneous with leafing in May. Elongate fruits also attractive. It requires a soil free of lime, with a good water supply and deep layer, and a sheltered spot with humid climate.

125. *Magnolia acuminata* L. — Cucumber-Tree

It is the fastest and highest growing *Magnolia* reaching a height of even 10–15 m. A native of the eastern parts of North America. It has a regular

pyramidal head and inconspicuously coloured flowers opening after leaf-budding at the end of May or beginning of June. The ovoid fruit is red when ripe and very decorative among the golden yellow leaves in the autumn. It should be planted singly, in fresh soil. A winterhardy species.

126. *Magnolia virginiana* L. — Sweet Bay

It is a native of the eastern-, south-eastern parts of the United States, developing into a 15–20 m high tree. In Europe it reaches only the height of a larger shrub. The ivory-coloured, fragrant flowers bloom in June–July. It requires a fresh or moist soil. A thermophilous, somewhat frost-sensitive plant.



124



125



126



Plate 30

127. *Magnolia* × *soulangeana* Soul.-Bod.

It was produced in 1820 in France by crossing *M. denudata* and *M. liliiflora*. A deciduous shrub or small tree of 3–4 m with spreading branches. The 6-petalled, upright flowers open before leafing in April. Numerous varieties are known, each with variously coloured and shaped flowers, though most of them are white inside and pinkish or reddish outside, usually more or less fragrant. Fruit red, attractive. It is the most frequently encountered species among the Magnolias in gardens. It requires a fresh, deep-layered soil rich in minerals and free of lime, and also a humid climate. It should be planted in a sheltered spot, because the wind and the late frosts may damage the flowers.

128. *Magnolia denudata* Desr. — Yulan (*M. yulan* Desf.)

It is a native of the eastern and southern parts of China. A tree of 10–15 m, which in Europe only attains a height of 2–4 m growing into a big shrub.

Its upright, white flowers, 10–15 cm in diameter, give off a pleasant scent. Sepals and petals are identical. Flowers open in April. One of the most beautiful species among Magnolias. Its requirements are similar to those of the previous species.

129. *Liriodendron tulipifera* L. — Tulip-Tree, White-Wood

It originates from the eastern parts of the United States, where it grows into a 40–50 m tall tree with a pyramidal head, later becoming outspread. It is deciduous. Leaves turning yellow, in autumn are characteristically three-lobed. Flowers much resembling the common tulip are upright and open in June. Fruit dry, cone-like remaining attached to the branches after the leaves fall. It should be planted in a loose, fresh soil rich in minerals, when possible with the original earth ball, since transplantation retards development. It requires good temperature, humid climate and plenty of sunshine. A valuable ornamental tree of fast growth wide-spread all over the world.



Plate 31

Calycanthaceae — Calycanthus Family

130. *Chimonanthus praecox* (L.) Link — Winter Sweet

A 2–3 m high deciduous shrub from China, highly valued for its early blossoming. Its high-scented flowers come out well before leafing, usually in February–March, and when the winter is mild they may even bloom in January. Being a thermophilous shrub, it should be planted in a sheltered, sunny or half-shaded place of the garden, otherwise in severe winters the branches suffer frost-bite. In optimum microclimate, on the other hand, it brings flowers much earlier. A warm but not too dry soil suits it best. Wet places, too frequent watering or over-fertilization gradually make it frost-sensitive and not only its flower-buds but the shoots may also die off.

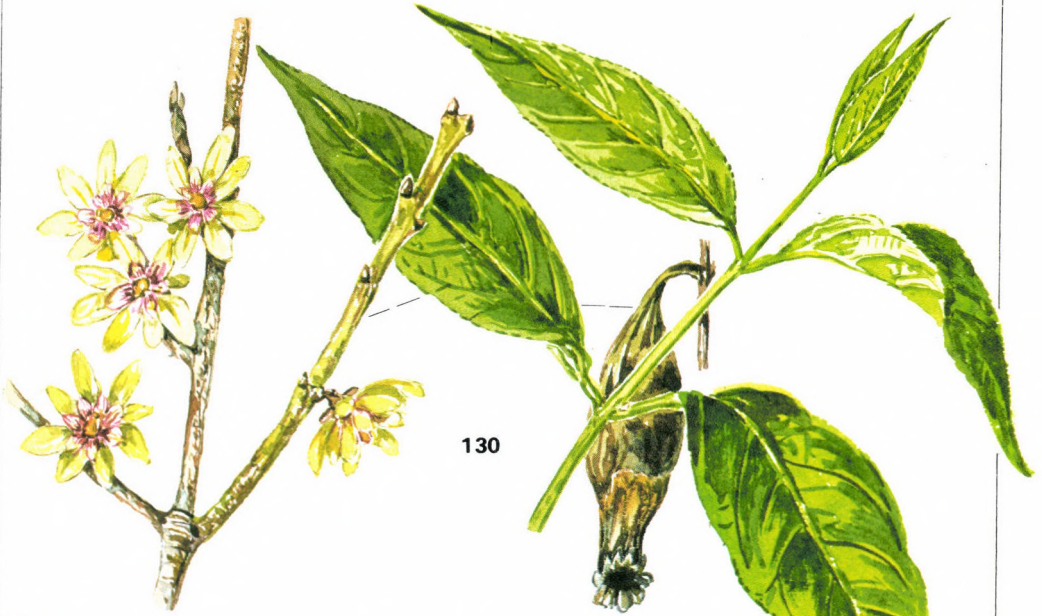
131. *Calycanthus occidentalis* Hook. et Arn. — Western Allspice, Sweet-Shrub

A native of California, which under optimum conditions grows into a 1.5–3 m high shrub. Shoots

and branchlets emit, when rubbed, a spicy odour. Its characteristic flowers sit on the tips of the short lateral shoots and open from July till August. A thermophilous shrub, which in a wet soil in frosty nooks may suffer frost-bite.

132. *Calycanthus floridus* L. — Carolina Allspice

A small, 1.5–2 m high shrub from China, whose all parts: root, wood, bark, shoot, leaf and the flowers emit a spicy odour. The dark, brownish red flowers opening in June–July have a camphor smell. The foliage turns yellow in autumn. Similarly to the previous species it is also thermophilous, though somewhat less sensitive to frost. It requires a readily permeable, fresh soil rich in minerals in a sunny spot or in half-shade. Under colder climate younger plants had better be covered in winter. An interesting solitaire in gardens and parks.



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Plate 32

Annonaceae — Custard-Apple Family

**133. *Asimina triloba* (L.) Dun. —
Papaw**

Native of the south-eastern parts of the United States, where it develops into a 10–12 m high tree. The only representative of tropical trees in the family *Annonaceae* which is safely planted in the temperate regions of Europe. Though slow in development and only 2–3 m high here, it brings

flowers and bears fruit. Its peculiarly shaped flowers bloom just before or simultaneously with leafing in May. Its edible fruit becomes ripe in September–October. The autumn colour of the foliage is gorgeous, golden yellow, a rather long lasting ornament of the tree. Leaves, flowers and fruit are equally pleasant to the eye. It requires a warm soil with sufficient water and nutrients and a sheltered, sunny place.

Lauraceae — Laurel Family

**134. *Sassafras albidum* (Nutt.) Nees
var. *molle* (Raf.) Fern. — Sassafras**

A big shrub or small tree of North America whose tillers shoot up in large numbers around the main trunk. Bark irregularly furrowed. The dioecious flowers bloom in April–May, the fruit becomes ripe in September–October. Its variously shaped leaves turn orange or scarlet in autumn. Its peculiar appearance makes it a valuable ornamental tree. It requires a good quality soil in a sunny place.

**135. *Lindera benzoin* (L.) Blume —
Spice-Bush**

A larger shrub, native of the south-eastern parts of the United States. The leaves have a pleasant aromatic scent, in autumn they become yellow. The small, greenish yellow, dioecious flowers open on the canes in March–April. Fruit scarlet-red, ripe in September. It requires a sunny place with humous, fresh soil free of lime. It is a dendrological rarity.

133



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Plate 33

Saxifragaceae — Saxifrage Family

136. *Philadelphus sericanthus* Koehne

It was discovered at the end of the last century in Central China; a 1.5–3 m high, big shrub. The bark of the light brown shoots exfoliates in small flakes. Flowers opening in June, though not fragrant, offer with their great numbers a wonderful sight. Like the other *Philadelphus* species, it is a shrub of very moderate requirements developing well in any kind of soil except under extreme conditions. It requires much light, though survives in shade where, however, brings few flowers. A shrub mostly planted in groups.

137 *Philadelphus* × *cymosus* Rehd. 'Bouquet Blanc'

A 1.5–2 m high shrub with diverging branches. The milk-white fragrant, full flowers open in June, and almost entirely cover the shrub. It is a valuable ornamental plant introduced in 1903 by Lemoine, the well-known French plant breeder.

138. *Philadelphus microphyllus* Gray

It is a weak, hardly 1 m high shrub with thin shoots in the south-western parts of the United States. Its snow-white, very fragrant flowers bloom in June. Since it has been frequently used for crossing in the

work of ornamental plant breeding, a host of forms are available to satisfy various tastes.

139. *Deutzia longifolia* Franch.

It was discovered at the beginning of this century in the Szechwan province of China. As both its flowers and leaves are decorative it became widespread in a short time. Flowers bloom in June. Requirements are similar to those of the following species.

140. *Deutzia scabra* Thunb. 'Plena' (*D. crenata plena* Hort.)

It is one of the most favoured species of *Deutzia*; a densely branched, 2–3 m high bush with upright branches. It develops rapidly producing scentless flowers in June–July. It prefers a normal garden soil and a sunny place, though survives in shade where, however, brings flowers in smaller quantities. Not to be planted in dry soil.

141. *Deutzia parviflora* Bge.

It is a smaller shrub from North China with small, white flowers opening in June. When planted close it may develop into a low hedge.



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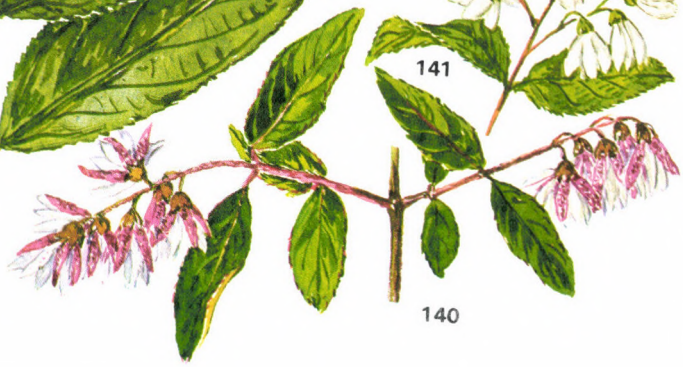
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Plate 34

**142. *Philadelphus coronarius* L. —
Mock-Orange**

Its native land extends from Italy to the Caucasus. It develops into a 2–3 m high, deciduous shrub, whose dark brown bark exfoliates from the branchlets. The highly scented flowers open in masses at the end of May, beginning of June. It is a plant of no particular demand, developing well in moderately dry soil and even in shade. Because of its rapid growth and beautiful flowers a shrub frequently planted in gardens.

143. *Deutzia gracilis* Sieb. et Zucc.

In Japan, its native land, it is a 80–100 cm high, densely branched, deciduous shrub. Leaves oblong-lanceolate with scattered stellate hair on the upper surface. Its snow-white flowers bloom in May–June. It requires good soil and a sunny place;

after rainy autumn it is somewhat frost-sensitive. With its abundant flowering and closed habit suitably developed into low, flowering hedges unnecessary to cut. In winter it can be forced in glasshouse and the flowering branches put on the market.

**144. *Ribes aureum* Pursh —
Golden Currant**

Native of the western parts of North America, growing into a 1.5–2 m high, deciduous shrub with a spreading base. The three-lobed leaves become vivid red in autumn. The fragrant, golden yellow flowers form hanging or upright racemes and open simultaneously with leafing in April–May. Fruit globose, pea-like, ripe in July. It has very moderate requirements, thus, it thrives even on dry soil poor in mineral resources, and also in shade. A shrub of rapid growth, frequent in parks and gardens.



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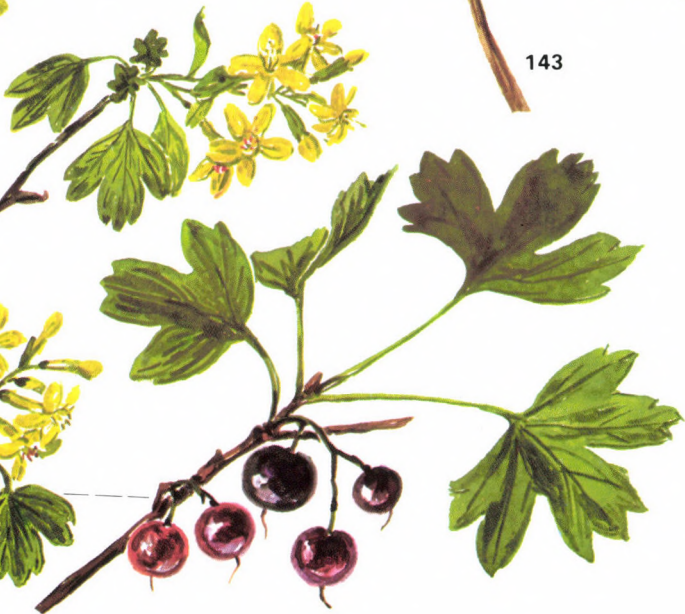


Plate 35

**145. *Ribes alpinum* L. —
Alpine Currant,
Mountain Currant**

A 1–2 m high, thick shrub leafing early in spring. Its small, dioecious flowers bloom in April–May. Fruit sweetish and red embellish the shrub at the end of summer and in autumn. It should be planted in half-shade or shade with a humid climate, since in its original biotope in Europe and Siberia where it grows wild among the mountains such conditions prevail. Fine, cropped hedgerows can also be developed from it.

146. *Ribes sanguineum* Pursh

Native of the western parts of North America reaching a height of 1.5–2 m. Racemes pendulous, composed of red flowers usually on the upper one-third of the branches, opening in April, before leafing. It develops well in any good acidic soil neither too dry nor too wet. Being slightly frost-sensitive, in severe winters may become frost-bitten but it shoots up again from the base. Much favoured far and wide because of its early flowering. Planted with other early flowering plants (e.g. *Forsythia*, *Chaenomeles*, *Lonicera fragrantissima*) a pleasing composition can be achieved.

147. *Ribes multiflorum* Kit.

It is a native of the mountains of the Balkan Peninsula, where it develops into a 1–2 m high,

early shooting shrub. Its multi-flowered racemes open in April–May. Fruit dark red, edible. Requirements similar to those of *R. alpinum*. It was described by the renowned Hungarian botanist Pál Kitaibel (1757–1817).

148. *Ribes niveum* Lindl.

It is a shrub of 1–3 m with spiny branches, originating from the north-eastern parts of North America. White flowers open in April–May. Fruit bluish black. When blooming it is very pleasing to the eye.

**149. *Ribes americanum* Mill. —
American Black Currant**

A 1–1.5 m high shrub with thin, thornless branches in the forest of the northern parts of North America. Leaves turn red in autumn. Flowers open in April–May, the black fruit becomes ripe in July. Half-shaded or shaded places with fresh soil are its demands.

150. *Ribes* × *gordonianum* Beaton

It is a hybrid produced by crossing *R. sanguineum* and *R. odoratum* in the last century in England. Fragrant flowers open in April–May. While requiring similar conditions as *R. sanguineum*, it is more tolerant to cold weather and calcareous soil. A valuable ornamental garden shrub.

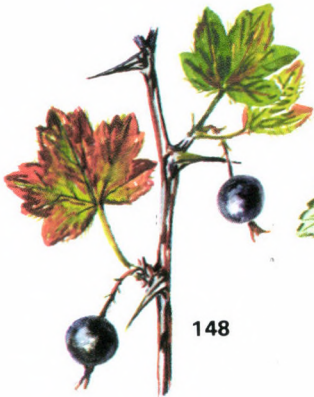


Plate 36

151. *Hydrangea anomala* D. Don
ssp. ***petiolaris*** (Sieb. et Zucc.) McClintock

Native of East Asia, climbing with the help of aerial rootlets 10–15 m high, though when planted in an open space without any support it grows into a 2 m high shrub only. Its white, corymbose flower-clusters of 15–25 cm in diameter are ornaments of the garden in June–July. An early leafing shrub whose large corymbs give a beautiful sight. It requires a fresh soil, and protection from the wind. One of the most beautiful climbing shrubs.

152. *Hydrangea aspera* D. Don
ssp. ***sargentiana*** (Rehd.) McClintock

It is a native of the Hupeh province of China, where it reaches a height of 2–3 m. Its thick, sparsely branching shoots stand upright. Both the shoots and the 15–35 cm large soft leaves are covered with erect, long hairs, pink while young. Its peculiar flowers appear in July–August. It requires a humid climate, fresh soil and a half-shaded place sheltered from the wind. Somewhat frost-sensitive, thus, under colder climate, it should be covered in winter.



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Plate 37

**153. *Hydrangea quercifolia* Bartr. —
Oak-leaved Hydrangea**

It is a deciduous shrub of 1.5–2 m from the south-eastern parts of the United States. Its highly characteristic, lobed leaves well differentiate it from all other *Hydrangeas*. The foliage turns red or purplish red in autumn. Flowers bloom in July–August forming large panicles. It requires a fresh soil rich in minerals and free of lime, and a sunny or half-shaded spot.

**154. *Hydrangea arborescens* L.
'Grandiflora'**

When flowering it could be mistaken for a hybrid, though it was found growing wild in Ohio (United States) at the turn of the century. It is a shrub of 1–2 m, whose 10–18 cm wide, paniculate, greenish white inflorescence is sterile. In requirements it

differs from all other *Hydrangeas* by preferring a somewhat compact and fresh calcareous soil. It should be planted in sunny or half-shaded places. Its large panicles ornament the garden for a long time.

**155. *Hydrangea arborescens* L.
ssp. *radiata* (Walt.) McClintock**

Its native land is the south-eastern parts of the United States, the states of North and South Carolina and Tennessee. It is a shrub of 2 m with leathery leaves, shiny dark green on the upper and white pubescent on the lower surface. Inflorescence 6–12 cm in diameter, fully open in June–July, with sterile flowers at the edges. It requires a warm, sheltered place. In countries where the winter is more severe it had better be covered up for the winter season. Its soil requirements are similar to those discussed under *H. quercifolia*.



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Plate 38

156. *Hydrangea macrophylla* (Thunb.) Ser.
(*H. opuloides* K. Koch)

A thinly branched, 1–2 m high ornamental shrub originating from Japan, usually put on the market as a pot plant. The fertile flowers are insignificant, while the pink, white or blue sterile flowers of 1–3 cm in diameter are composed of colourful sepals forming a large flat or hemispherical inflorescence. After flowering the potted shrubs can be planted outdoors in a sheltered, half-shaded place, possibly in a soil free of lime.

157. *Itea ilicifolia* Oliv.

Native of Central China, where it is an evergreen shrub of 2–3 m with glabrous, green shoots and prickly toothed leaves. Its greenish white flowers open in August, the fruit is a multi-ovuled capsule. It requires fresh soil rich in nutrients, and a sheltered, humid place. Being frost-sensitive, in most European countries had better be covered in winter, while under severe conditions it can over-winter only under glass. A rarity in arboreta.

Hamamelidaceae — Witch-Hazel Family

158. *Hamamelis vernalis* Sarg. —
Spring Witch-Hazel

Native of the central parts of the United States. A 1–2 m high, deciduous shrub with loosely arranged branches. Its fragrant flowers bloom rather early, even in winter if it is mild, or very early in spring. The

four petals are very narrow, 1–2 mm wide at most, and 1–1.5 cm long, light yellow in colour, though reddish at the base. Fruit opens at the top, hiding two glabrous, black, elongate seeds. It prefers a fresh soil free of lime, a sheltered, sunny or half-shaded place, though may thrive well in shade. Highly valuable owing to its early flowering.



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157



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Plate 39

159. *Hamamelis virginiana* L. — Virginia Witch-Hazel

Native of the eastern parts of North America, a 3–6 m high, deciduous shrub. Leaves golden yellow in autumn. Its peculiar flowers bloom in September–October, but the fruit becomes ripe only in the autumn of the following year. The longish, black seeds are thrown far from the characteristic capsule. It requires a soil free of lime, tolerates half-shaded places. A most interesting plant, since its flowering time coincides with the discoloration and fall of the leaves, a very rare phenomenon with other shrubs.

160. *Hamamelis japonica* Sieb. et Zucc. — Japanese Witch-Hazel

It came to our gardens from the mountains of Japan. One of the earliest flowering shrubs; in mild winters its delicate flowers open in January, and make the otherwise bare shrub beautiful. Leaves turn orange yellow in autumn. In its native country it may even attain a height of 10 m, and sometimes has the habit of a small tree; in Europe, however, seldom grows higher than 2–3 m. We should plant it in a sunny, sheltered, warm place, with soil free of lime, so as to enjoy its flowers as early as possible.

161. *Corylopsis veitchiana* Bean

Far-Eastern shrubs of the genus *Corylopsis* all produce flowers very early, usually before or simultaneously with leafing and are therefore valuable ornamental plants. *C. veitchiana* is a native

of Central China reaching a height of 1–2 m only. The flowers are pale yellow and fragrant, clustered into racemes and bloom in April. It requires, like the other *Corylopsis* species, a fresh soil rich in mineral resources, a half-shaded place sheltered from the wind. Late frosts may destroy the flowers, it should not therefore be planted in frosty corners.

162. *Corylopsis willmottiae* Rehd. et Wils. — Winter-Hazel

It is a 3–4 m high, upright Chinese shrub of strong habit. It brings flowers somewhat earlier than the previous species.

163. *Corylopsis sinensis* Hemsl.

Like the previous species, it is a large shrub. The fragrant, lemon yellow flowers forming 3–5 cm long clusters axillarily attached to the shoots open in April. Its requirements are very similar to those of *C. veitchiana*.

164. *Parrotia persica* (DC.) C.A. Mey.

A 5–8 m high tree with several trunks, or a big shrub originating from Persia. It is one of those plants which have the most beautifully coloured leaves in autumn; leaves displaying thousands of shades from golden yellow to scarlet-red. Best planted in a sunny, warm place with fresh soil, as a single tree with sufficient space so as to emphasize its fine shape and brilliant foliage.



Plate 40

165. *Fothergilla monticola* Ashe

A shrub with a loose habit growing to 1–2 m; a native of the south-eastern part of the United States. Its upright, fragrant flower-clusters come out simultaneously with the leaves. Leaves of freestanding specimens turn red in autumn. It requires a sunny or half-shaded place. Its peculiar inflorescence is most impressive among evergreen shrubs. Fresh soil free of lime, and humid climate are necessary conditions.

166. *Liquidambar styraciflua* L. — Sweet-Gum

It is a very tall—sometimes even 40–50 m high—tree in North America, with a pyramidal head. In Europe it is much smaller. Branches are frequently covered with cork-laths, striking with defoliated specimens. Both its wood and leaves are fragrant.

Its insignificant flowers open in April–May. The spherical fruit, similar to that of the plane-tree, remains on the branches in winter. It is usually planted for its marvellously colourful autumn foliage; in October the leaves display almost all shades of orange yellow, carmine- and purple red. It requires a deep-layered, moist acidic soil with good water supply. When young sensitive to frost, later becoming winter-hardy. A fast growing tree best planted as a solitaire.

167. *Liquidambar orientalis* Mill. — Oriental Sweet-Gum

A West-Asian tree; smaller and slower in growth but more beautiful than the previous species. It requires similar conditions and is of the same ornamental value. Being frost-sensitive, older, fully developed specimens are encountered in South Europe only.



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Plate 41

Eucommiaceae — Eucommia Family

168. *Eucommia ulmoides* Oliv.

A deciduous tree of some 15–20 m from Central China, with a shapely crown. The young shoots and leaves contain a gum-like material, well perceptible when the leaves are carefully torn. Flowers come

out in April, fruit ripens in September–October. Since it is dioecious, fruit is produced only if both staminate and pistillate specimens are present. Rapidly growing when young. A plant of dendrological interest.

Platanaceae — Plane-Tree Family

169. *Platanus hispanica* Muenchh. —

London Plane-Tree

(*P. acerifolia* (Ait.) Willd.,

P. hybrida Brot.)

It is supposedly a hybrid of *Platanus occidentalis* and *P. orientalis* or a form of *P. orientalis* long since cultivated in the temperate zone. A tall tree up to 35 m with a large, round, loose crown, trunk and thicker branches with exfoliating bark. Leaves of various shape, usually 3–5-lobed, 15–25 cm in width. The 2–2.5 cm wide fruits are globular and sit on a pendulous stalk usually in twos, sometimes one by one or in threes. It requires a deep-layered, fresh soil rich in minerals, much light, and warmth. Under optimum conditions its growth is rapid. Being tolerant to urban conditions, to air-pollution in particular, it is suitably planted in inhabited areas, and industrial establishments though only when sufficient space is provided for its big crown. Owing to its imposing crown, exfoliating bark, beautifully cut leaves and pendulous fruits it is a

valuable tree frequently planted in streets and parks. It stands the necessary pruning well and soon develops new branches.

170. *Platanus hispanica* Muenchh. 'Kelseyana'

This is a variety of the previous species with leaves of a yellow pattern; weaker in development than the nominate species.

171. *Platanus occidentalis* L. — Buttonwood, American Plane

It is a native of the central and southern parts of the United States where it develops into a 40–50 m high tree with a big crown. From the thick trunk the bark exfoliates in small flakes. The width of leaves exceeds the length. Petioles bear globular fruits in ones or twos. Its requirements and use are similar to those of *P. hispanica*.

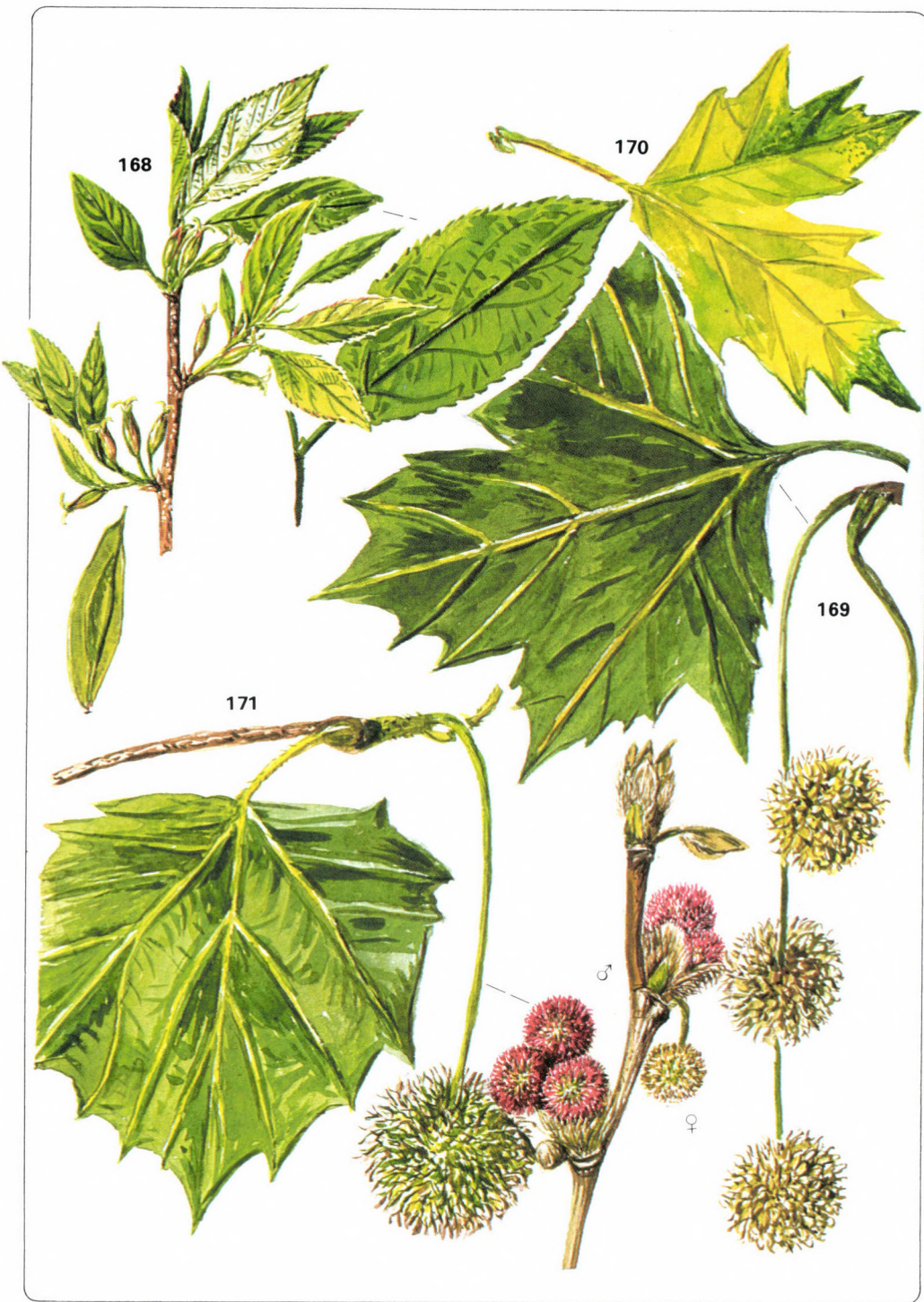


Plate 42

Rosaceae — Rose Family

172. *Neillia affinis* Hemsl.

Native of West China, where it is a 1–2 m high, deciduous shrub with pinkish flowers clustered into a 4–8 cm long raceme sitting at the shoot apex. The flowers come out in May–June. The colour of the autumn foliage is yellow. It requires a medium dry, sunny, warm spot. Slightly frost-sensitive, in severe winters becomes frost-bitten, but in spring brings new shoots from the base. Rarely encountered, though it deserves more attention.

173. *Stephanandra tanakae* Franch. et Sav.

It is a 1–1.5 m high Japanese shrub with thin branches and a loose habit. Its deeply lobed leaves become yellow and reddish by autumn. The flowers come out in June–July. Requirements similar to those described for the former species.

174. *Physocarpus bracteatus* (Rydb.) Rehd. 'Aureus' — Ninebark

It is a 1.5–2 m tall, deciduous shrub. Bark exfoliating in yellowish, paper-like pieces from the older branches. Its umbelliform racemes are white and bloom in June. Pods when ripe are red. This variety was produced in the Vácrátót Botanical Garden (Hungary). It keeps its beautiful colour from spring till autumn. Photophilous, drought-resistant, with no particular demand on soil.

175. *Spiraea salicifolia* L.

An upright, 1–2 m high shrub spreading with suckers; common from South-eastern Europe to Japan on moist soil, or on banks of watercourses. The flesh-coloured flowers, cluster in pyramidal pubescent panicles and bloom in June–July for quite some time. Spreading rapidly by the help of suckers it covers a larger area. It requires much water.

176. *Spiraea* × *bumalda* Burvenich

A low shrub, branching from the base, a hybrid of *S. albiflora* and *S. japonica*. Its pink panicles sit on the apex of the shoot and bloom in June–July. Since the flowers come out in summer, it is especially valuable. Many varieties are known, the following one is the most favoured of them.

177. *Spiraea* × *bumalda* Burvenich 'Anthony Waterer'

It is a 60–80 cm high, deciduous shrub, characterized by yellow-, white- or pink-mottled leaves often appearing at the shoot apex. Flowers carmine red opening in the middle or at the end of summer. A decorative shrub with no particular demand, which can be used as a solitaire but also as a low hedge needless to prune.

178. *Spiraea cantoniensis* Lour. 'Lanceata'

It is a native of East Asia, a 1–1.5 m tall shrub with thin branches. Its white flowers open in May–June entirely covering the bent shoots. It requires a sunny, warm place being frost-sensitive in colder climate. The flowering period in the full-panicled form is longer than in the simple-flowered one, thus, this variety is more valuable than the original species.

179. *Spiraea thunbergii* Sieb.

A densely branched, 1 m high shrub from China and Japan. Flowers open in April, earliest among *Spiraea* species; and leafing is also rapid. The autumn foliage is yellow or orange yellow. It should be planted in sunny places in normal garden soil.

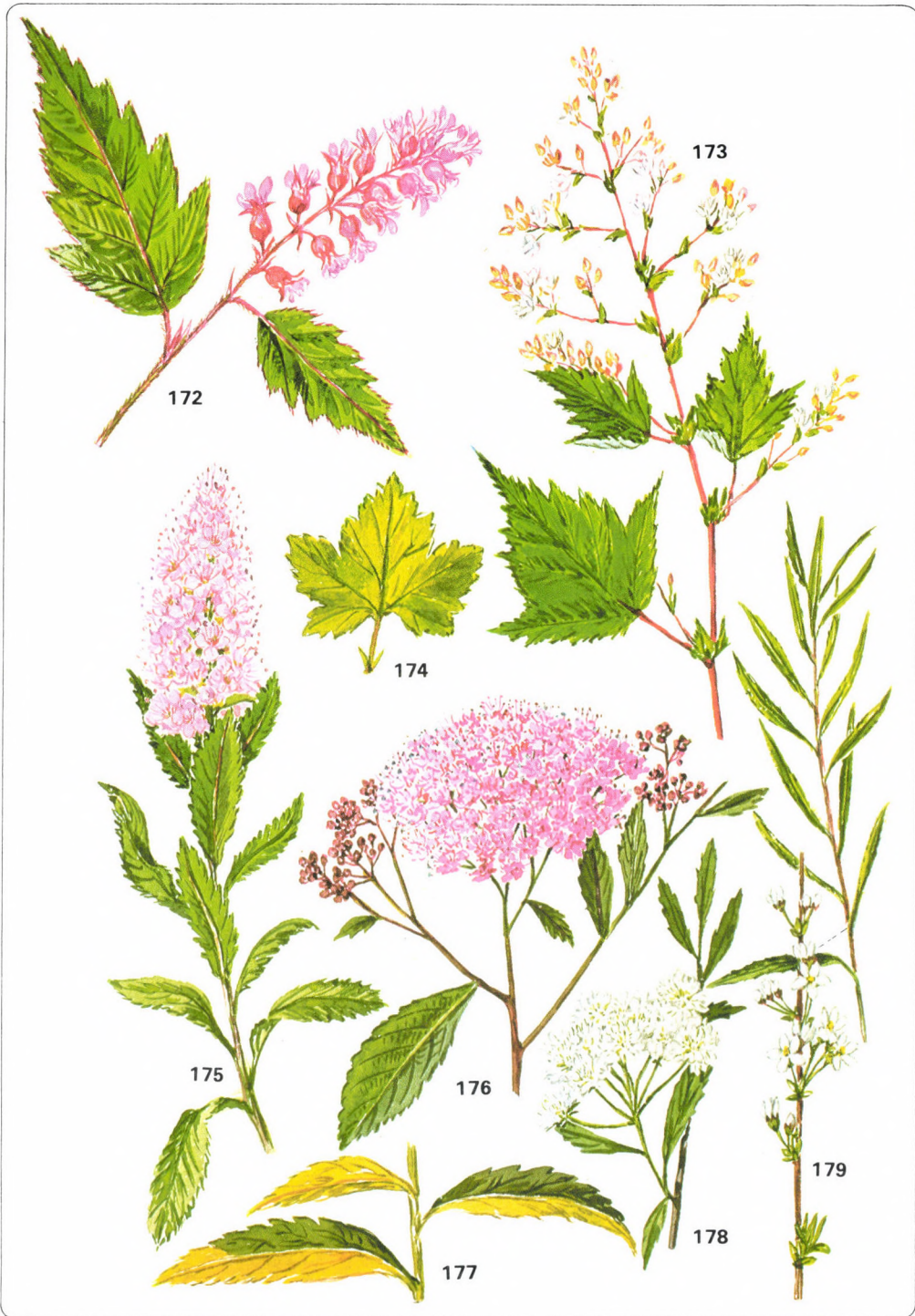


Plate 43

180. *Sorbaria aitchisonii* Hemsl.

Native of Afghanistan to West China; thinly branched, 2–3 m high, deciduous shrub with red young shoots and budding leaves. Its large, white panicles open at the shoot apex in July–August. Being frost-sensitive, it requires a warm, sheltered, sunny place. A nice freestanding shrub.

181. *Sorbaria sorbifolia* (L.) A. Br.

A native shrub of North Asia with upright branches, growing into a 1.5–2 m high bush, spreading with suckers. Shoots brown and thick. Its full panicles emit a somewhat unpleasant smell in June–July. The stamens stand out of the white flowers. Leafing early. It requires good soil in a sunny spot. Its loose foliage and lovely inflorescence make it a much favoured ornamental shrub.

182. *Holodiscus discolor* (Pursh) Maxim.

A North American deciduous shrub of middle height producing a profusion of flowers. Its large pendulous panicles on the apices of shoots appear

in July–August. Since it produces flowers in summer, it is a valuable shrub. Requirements similar to those of the previous species.

183. *Sibiraea laevigata* (L.) Maxim.

As indicated by its generic name it comes from Siberia; a 60–100 cm high, deciduous shrub, whose entire leaves are bluish green on both sides. Flowers bloom in May. It is planted for its interesting foliage; the flowering spike has no ornamental value. A warm, sunny spot should be chosen for it, though—being drought-resistant—it may also be placed in larger rock-gardens.

184. *Exochorda giraldii* Hesse

Native of north-western China; a big, deciduous shrub, strong in growth habit of a height of 3–4 m. The young shoots are red at the apex, leaf-petioles and veins similarly red. It produces a huge mass of flowers at about the end of April and beginning of May. It should be planted in a sunny place in a soil rich in nutrients.

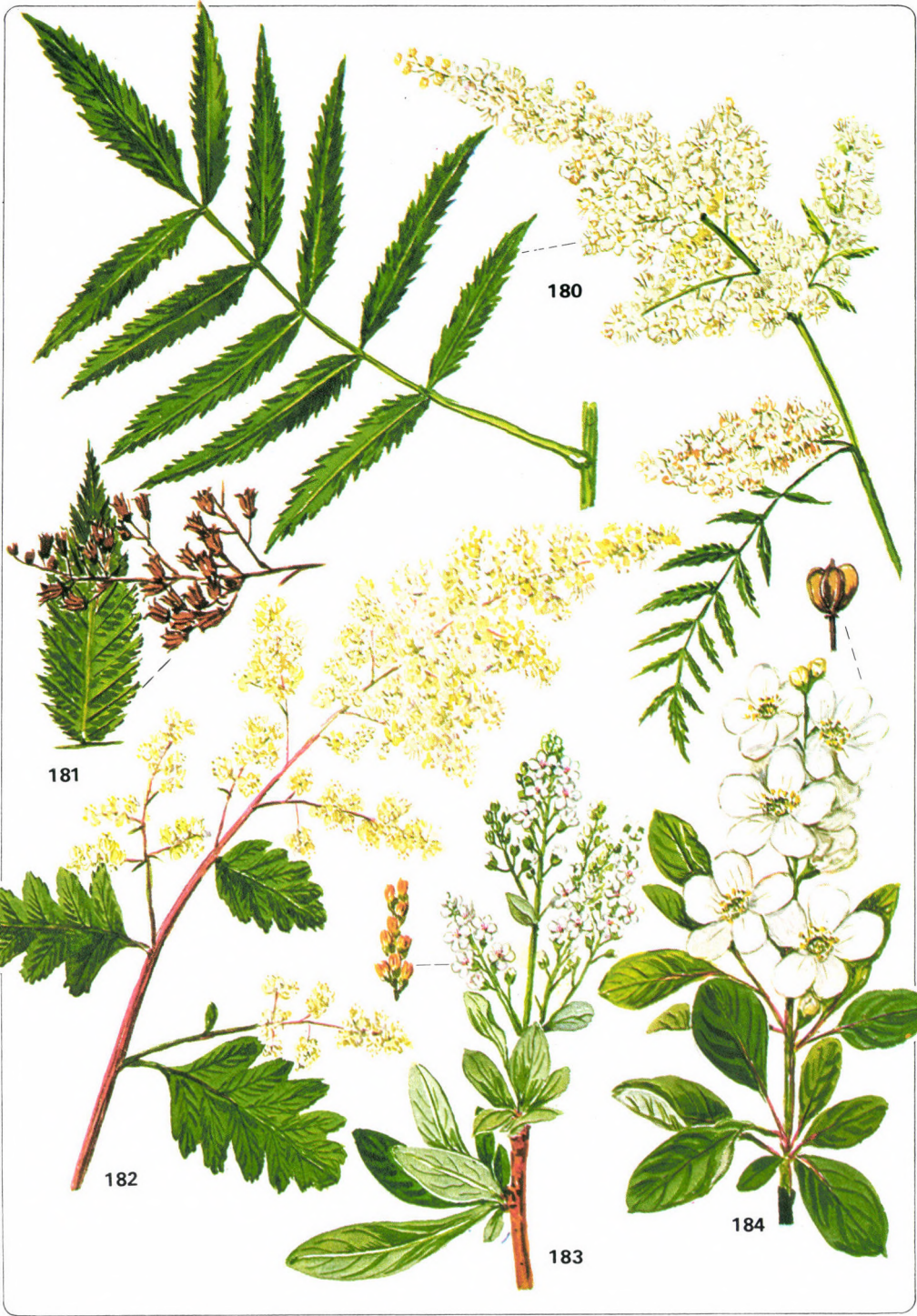


Plate 44

185. *Exochorda racemosa* (Lindl.) Rehd. —
Pearl-Bush

It is a 3–4 m high deciduous shrub from East China, with spread branches and thin shoots. Leafing is early, flowers are snow-white and open in May. The 4–5 ribbed, broad turbinate dry fruit remains on the bare branches for quite some time. An abundantly flowering shrub which requires a sunny spot and moderately good soil. A plant for larger gardens or parks since it needs space owing to its size.

186. *Cotoneaster integerrima* Med.

It is a 1–1.5 m high deciduous shrub with spreading branches, from Europe to the Altai Mts. in Asia. The young shoots are yellowish green tomentose, later becoming glabrous and shining. Flowers in pendulous clusters open from April till the end of May. The two-seeded fruit becomes ripe in August. It is an excellent drought-resistant shrub living on rocky, stony, sunny hill-sides. Its horticultural application should be planned accordingly.

187. *Cotoneaster acutifolia* Turcz.

A deciduous shrub in North China, reaching 2–3 m, with a width usually exceeding its height. Flow-

ers open in May–June; fruit becomes ripe in September but soon falls. Modest in requirements and somewhat drought-resistant. Except its beautiful autumnal foliage it is a plant of low ornamental value.

188. *Cotoneaster horizontalis* Decne.

It is a native of West China, a 40–50 cm high, deciduous shrub. On branches spreading almost horizontally the lateral shoots are set very close and alternately. Masses of tiny flowers open in June, when it is very frequently visited by bees. The pe-sized, coral red fruit embellishes the branches from September till the middle of winter, unless, the birds pick the berries off. Leaves are suborbicular becoming orange or scarlet red in autumn. One of the most favoured ornamental shrubs equally suitable for sunny or half-shaded places where the soil is not moist. It is frequently placed in rock-gardens, slopes, in front of conifers or evergreens, and sometimes to cover the ground. When planted beside the house, it neatly covers the wall with its fan-like branches. In shaded spots the leaves remain green and overwinter.



Plate 45

189. *Cotoneaster henryana* (Schneid.) Rehd. et Wils.

This 2–3 m high shrub is a native of Central China, evergreen when planted in a sheltered place. Its leathery leaves partly turn reddish in autumn. Flowers come out in June. The fruit becomes ripe in October, when with its dark red colour makes the foliage still more decorative. It requires a good soil and some protection from light.

190. *Cotoneaster melanocarpa* Lodd.

It is a 1–2 m high, deciduous shrub whose native land extends from East Europe to West Asia and Mongolia. The mat, dark green leaves become yellow or lilac red in autumn. The flowers bloom in May–June, and pruinose black fruits ripens in August. Drought-resistant with very moderate requirements. Its ornamental value is low.

191. *Cotoneaster racemiflora* (Desf.) K. Koch

Common from North Africa to West Asia and the Himalayas on moderately dry, sunny mountain slopes. It is a 1.5–2 m high shrub. Flowers bloom in May–June; the shining, light red fruit remains on the branches for several months from August onward. A valuable ornamental shrub whose flowers and fruit are equally beautiful.

192. *Cotoneaster franchetii* Boiss.

A native evergreen of the south-western parts of China, where it develops into a 1–2 m high shrub. On the bent branches the tiny pink flowers among the thick, dullish leaves are very attractive. Fruit becomes ripe in September–October and remains on the shrub until the end of the year. It should be planted in half-shade in a sheltered place.

193. *Cotoneaster adpressa* Boiss.

It is a native deciduous, prostrate shrub of West China. The tiny, reddish flowers come out in masses in June, in spite of this the bright red fruit ripening

in August–September is seen on the branches in relatively small numbers. Mostly planted to cover the ground, very suitable for rock-gardens, slopes, graves, etc. It should be planted in sunny, though not too dry places.

194. *Cotoneaster dammeri* Schneid. var. **radicans** Dammer

It came to Europe in 1908 from China; a prostrate evergreen shrub spreading with suckers, and has since become known far and wide. Flowers come out in May–June; the bright red fruit ripens in October–November. Very useful for covering the ground, since it quickly overgrows large surfaces. Both its flowers and fruit are of ornamental value. Winter-hardy and develops well almost everywhere except extreme soil conditions.

195. *Cotoneaster salicifolia* Franch.

Its native land is West China. It is 3–4 m high, evergreen shrub with arcuately pendulous branches. Leaves dark green with margins curving slightly underneath. The flowers bloom in June, the fruit is red, and ripe in October. It requires a humid climate and a half-shaded spot with good soil. The dark green leaves, the white flowers and the bright red fruit remaining on the branches for quite some time make it one of the most beautiful ornamental shrubs. For some years a host of varieties have been produced especially to cover open spaces, which are frequently planted in parks and gardens.

196. *Cotoneaster bullata* Boiss.

A deciduous shrub of 2–3 m. In its native land, West China, it was discovered at the end of the last century. Its thick, leathery leaves are of rugose or bullate surface. Flowering takes place in May–June. The bright red fruit sits on a long petiole in August–September; it is perhaps the most beautiful among the deciduous *Cotoneaster* species. Fresh soil rich in nutrients and a sunny place are the conditions required for its optimum development.



Plate 46

197. *Pyracantha coccinea* Roem.
'Lalandii' — Firethorn

It is one of the most beautiful ornamental plants. A 2–3 m high, evergreen shrub with dark green leaves. Its white flowers open in May–June. The orange-red berries remain on the branches from August till November, unless the birds pick them off. It requires a fresh soil rich in nutrients. In a sunny place develops better and produces more fruit; in half-shade, on the other hand, its evergreen character is more successfully preserved. Rather susceptible to scab-disease (fusicladium).

198. *Chaenomeles sinensis*
(Dum.-Cours.) Schneid. — **Chinese Quince**

In China, its native country, it grows into a large shrub or a smaller tree. Bark exfoliates in large flakes; branches thornless. Flowers sitting in singles come out simultaneously with the leaves or quite soon afterwards, and are therefore less remarkable. Fruit greenish or dark yellow, emitting a pleasant odour, but bitter to taste, attains a size of 10–15 cm. The autumn foliage is yellow or orange-yellow. It is slightly frost-sensitive.

199. *Chaenomeles cathayensis*
(Hemsl.) Schneid. var. **wilsonii** Bean

Native of West China, where it reaches a height of 3–6 m. The flowers come out before leafing in March–April. The 10–15 cm, longish fruit has a bitter taste.

200. *Chaenomeles japonica* (Thunb.) Lindl. —
Japanese Quince

A 50–100 cm high, thick, spiny shrub. Brick-red flowers set in small groups on the side of the branch open before leafing, in March–April. Its highly scented fruit, 3–5 cm in diameter remains on the bush until the middle of winter.

All species of *Chaenomeles* require fresh soil rich in nutrient and free of lime; and a sunny place. In calcareous soil the leaves turn yellow. Because of their early spring flowering they are much favoured ornamental shrubs. The tall ones are suitable to be developed into hedges, since they stand pruning rather well.



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Plate 47

201. *Pyrus pyraeaster* L. — Common Pear

Native of Central Europe, where it is a 10–15 m high tree or large shrub with a roundish crown and mostly spiny branches. Leaves lustruous dark green changing colour in autumn. The white flowers bloom in April–May. The 2–3 cm subglobose fruit is acrid to taste. In Hungary frequently found in forests, meadows or dry oak-woods. It has very moderate soil requirements, stands drought rather well. With its beautiful habit, masses of flower and lovely autumn foliage it is also suitable as an ornamental tree.

202. *Pyrus pyrifolia* (Burm.) Nakai — Sand Pear, Chinese Pear

Native of Central and West China, where it is a 4–10 m high tree. White flowers—3–3.5 cm in

diameter—forming corymbs bloom in April–May. Fruit subglobose, 3 cm across, tasteless. A photo- and thermophilous tree, indifferent to soil. Foliage beautifully coloured in autumn.

203. *Malus halliana* Koehne — Hall Crab-Apple

It is a 2–4 m high shrub or small tree with arched branches from the garden of the Far East; not known in wild form. Leaves longish oval and acuminate, thick and leathery, when young brownish red. Pedicels long and slender, flowers red in bud, and pink when open bloom in May. The small, reddish brown fruit is rather insignificant. In a normal soil, in sunny places it grows rapidly. Frequently encountered in parks as an ornamental plant.

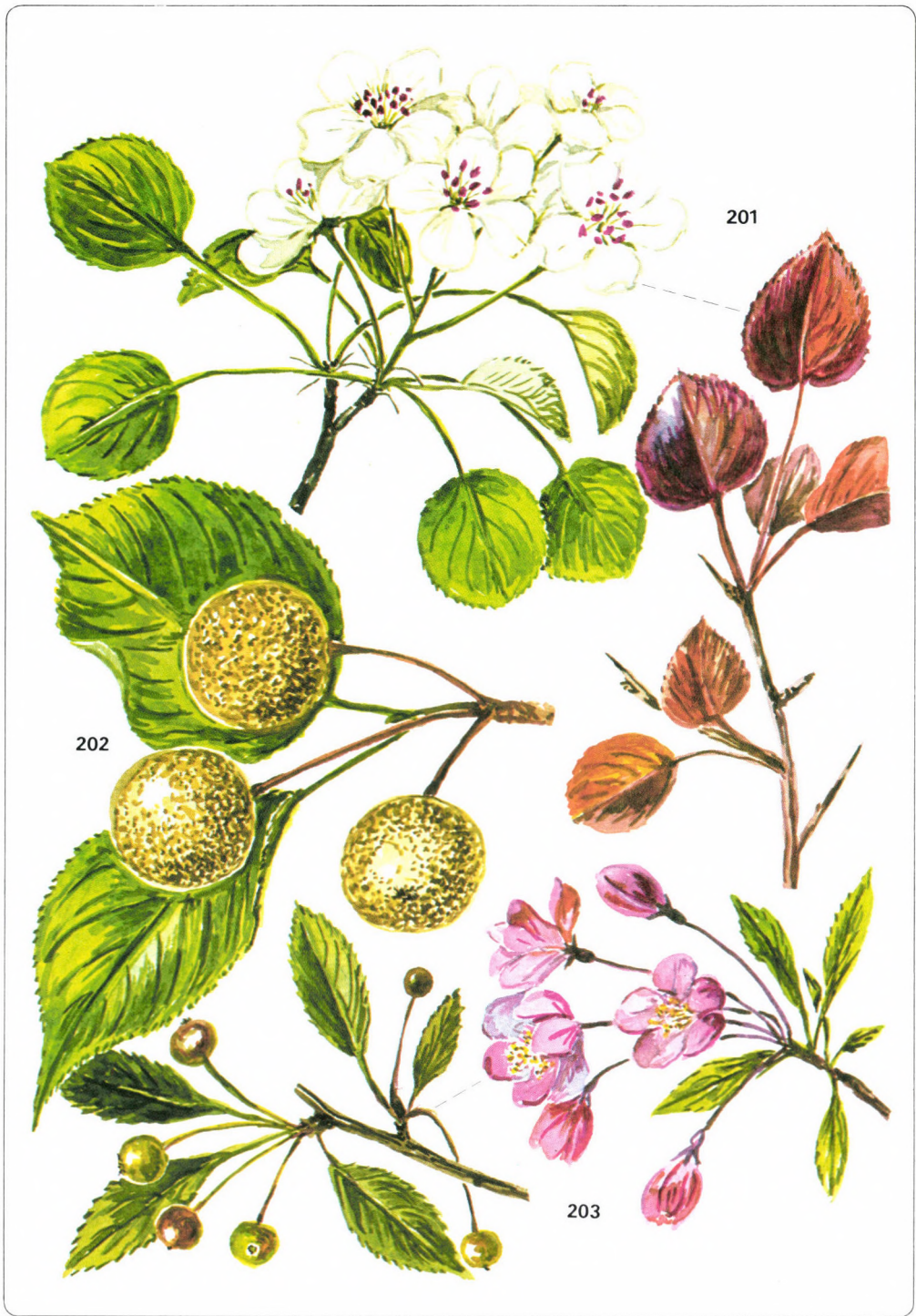


Plate 48

204. *Pyrus betulifolia* Bge.

It is a 5–10 m high rapidly growing ornamental tree from North China. Branches somewhat pendulous with lustrous green leaves which turn bright yellow in autumn. The white flowers bloom in May. The small pomes, similarly to other Far-Eastern *Pyrus* species, are devoid of sepal-remains. A finely shaped tree with moderate requirements, and tolerance to drought. The leaves remind one of birch leaves.

205. *Pyrus salicifolia* Pall. — Willow-leaved Pear

Its native land extends from South-east Europe to West Asia. A smaller tree with branches and thin shoots bending down. The shoots, leaves and the pedicels of flowers are greyish white tomentose. It should be planted in a sunny place with moderately dry soil. Owing to its silvery foliage and drooping habit it is much favoured in gardens.

206. *Malus floribunda* Van Houtte — Showy Crab-Apple

It is a tall shrub, or a small tree of 6–8 m from Japan, introduced in Europe in 1862. The flower-buds are carmine red, while the open flowers white inside and pink outside. They open in May in such profusion that they entirely cover the thin branches. The yellow or reddish pomes are pea-sized, and soft when fully ripe. Like the other ornamental apple-trees it requires good soil and a sunny place.

207. *Malus spectabilis* (Ait.) Borkh.

It is a shrub or a small tree originating from China. Flower-buds are reddish, but the open flowers become light rose-coloured or white. They bloom in May. The small pomes are 2–3 cm across and golden yellow, ripe in August, frequently used as a preserved fruit.

208. *Malus* × *purpurea* (Barbier) Rehd.

It is a hybrid of *M. atrosanguinea* × *pumila* 'Niedzwetzkyana', a rapidly growing large shrub or small tree. Its branches, shoots and budding leaves are brownish red. The purple flowers bloom at the beginning of May. The dark red fruit, the size of a cherry, becomes ripe in the middle of summer and remains on the branches for a long time. All varieties are highly valuable as ornamental plants.

209. *Malus sargentii* Rehd.

A shrub of 1.5–2 m with dense branches and a spreading habit from Japan. Its shoots on the branches frequently end in spines. The lustrous dark green foliage becomes yellow or orange-yellow in autumn. The snow-white flowers come out in huge masses in May. Its dark red fruit is very small. Owing to the great number of flowers it is a valuable and beautiful ornamental apple-tree.

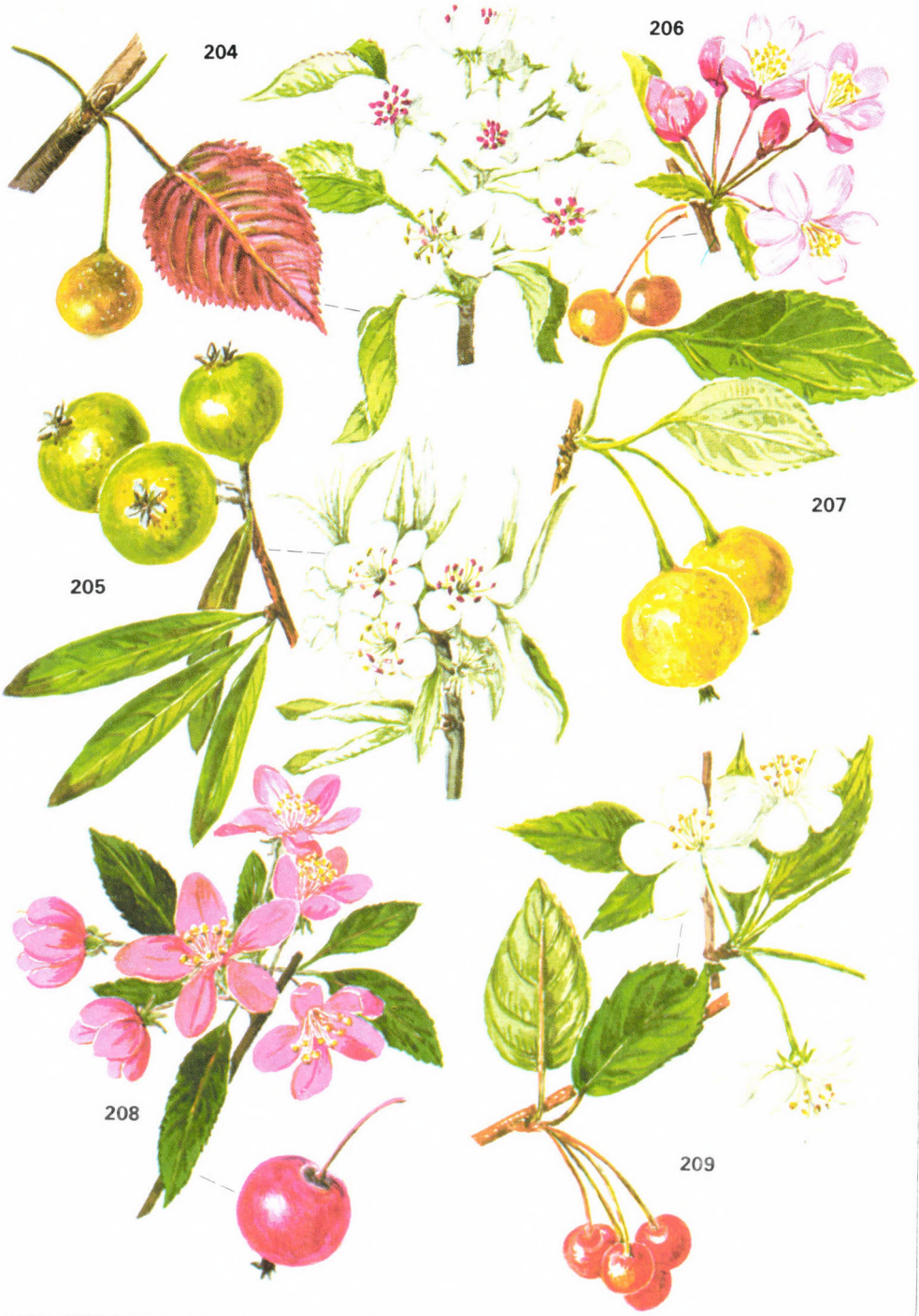


Plate 49

210. *Malus pumila* Mill. 'Niedzwetzkyana'

It is large shrub, or a small tree, with spreading branches from Turkestan. Almost all parts—young bark, bast, wood, budding, leaf, leaf-vein, flower and fruit and even the flesh of the sweetish pome, 5–10 cm across,—are red. Flowers open in May lending a lovely appearance to the plant. A frequent ornamental tree in our parks. It has often been used for producing improved varieties; many red-flowered ornamental cultivated forms have been improved from this apple.

211. × *Sorbopyrus auricularis* Schneid.

It is a hybrid of *Pyrus communis* and *Sorbus aria* produced at the end of the 17th century in Elsas; a spineless, 10–15 m high, deciduous tree. The white flowers bloom in May. Its sweetish, farinose fruit is 2–3 cm in diameter and piriform. Botanically interesting.

212. *Sorbus aucuparia* L. — Rowan-Tree, European Mountain-Ash

A tree of 10–12 m with a spreading head, native in many countries from Europe through Asia Minor to Siberia. Flowers 1 cm broad, forming an inflorescence 10–15 cm across, open in May. The bright red fruit appears already in June and remains on the tree until the beginning of winter. A heliophilous tree of high adaptability, usually planted for the beautiful inflorescence, decorative fruit and shapely leaves. Frequent in parks and gardens alike.

213. *Sorbus borbasii* Jáv.

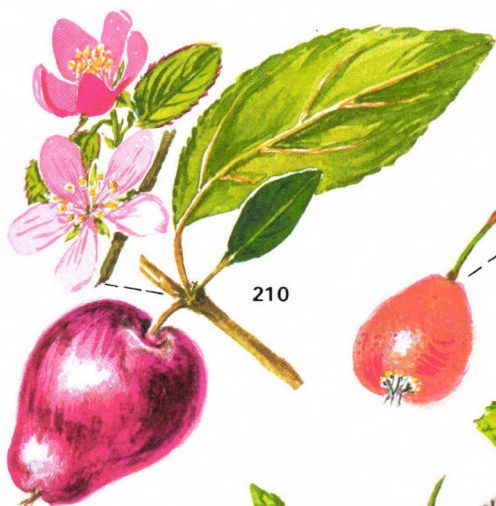
Native of South-east Europe, where it grows into a smaller tree. It has finely cut leaves. The flowers come out in May–June, the dark red fruit ripens at the beginning of August and remains on the branches for several months. It requires much light, stands drought well. A valuable ornamental tree, named by the great Hungarian botanist Sándor Jávorka after Vince Borbás, another renowned Hungarian botanist.

214. *Sorbus aria* (L.) Crantz — White Beam-Tree

Native of Europe. A 8–10 m high tree with a thick crown, or a large shrub. Leaves lustrous green on the upper and white tomentose on the lower surface, lending the plant a very decorative appearance. Its white flowers bloom in May–June, while in September–October the fruit is the ornament of the shrub. It develops slowly, is not sensitive to drought or polluted air. Best planted in a sunny place.

215. *Sorbus domestica* L. — Service-Tree

10–20 m high, deciduous tree with a pyramidal head. Native of Europe, North Africa and Asia Minor. Leaflets are 13–19 in number. Flowers bloom in May. It is a long since cultivated plant grown mainly for its edible fruit. It requires much light, and warm temperature, a fresh and moist soil rich in mineral resources.



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Plate 50

216. *Photinia villosa* (Thunb.) DC.

A deciduous, 3–5 m high shrub or small tree from East Asia. Leaves, flowers and fruit are all of ornamental value. Its white flowers open in June, the bright red fruit becomes ripe in October. Foliage dark green turning bright orange- or scarlet-red in autumn. It should be planted in soil free of lime.

217. *Crataegus succulenta* Link var. *macracantha* (Lodd.) Ettl.

It is a native of the eastern parts of North America; a larger shrub, or a small tree of 4–5 m. Branches full of 7–8 cm long spines. Its lustrous dark green foliage turns yellow or reddish in autumn. The white flowers bloom in May, the fruit ripens in September–October. It has very moderate requirements, and is drought-resistant; also used as an ornamental plant.

218. *Crataegus* × *lavallei* Herincq (*C.* × *carrierei* Vauvel)

Produced by crossing *C. crus-galli* and *C. pubescens* f. *stipulacea*. It is a small tree of 5–7 m or a high shrub whose branches carry 3–5 cm long, strong spines. A valuable ornamental plant, since the white flowers opening in May, and the red fruit remaining attached to the branches throughout the winter season are larger than in most *Crataegus* species. It is suitably planted in cities, being tolerant to low humidity, polluted air, poor soil, and even to drought, and—in addition to all this—it is beautiful.

219. *Crataegus orientalis* Pall.

It is a native of South-east Europe and West Asia. A smaller tree or a larger shrub with spiny branches. Its flowering time is in June, and produces ripe fruit in October. Requirements are similar as in the previous species.

220. *Crataegus submollis* Sarg.

Native of the north-eastern parts of North America, where it develops a globose head reaching a height of 8–10 m. Branches heavily covered with spines. The white flowers open in May, the fruit develops a light red colour in September, then soon falls. It requires a fresh or moist soil.

221. *Amelanchier canadensis* (L.) Med.

Native of the eastern parts of North America, a 3–6 m high shrub or small tree often with several trunks. In spring its silvery tomentose leaves, brownish red shoot apices and white cluster of flowers opening before or simultaneously with leafing all contribute to its lovely habit and ornamental value. The fruit, red in summer and early in autumn, then becoming pruinose bluish black, and the orange-red autumn foliage catch one's eye. It should be planted in a fresh or moist soil, if possible free from lime, in a sunny or half-shaded place. Much favoured in parks and gardens.

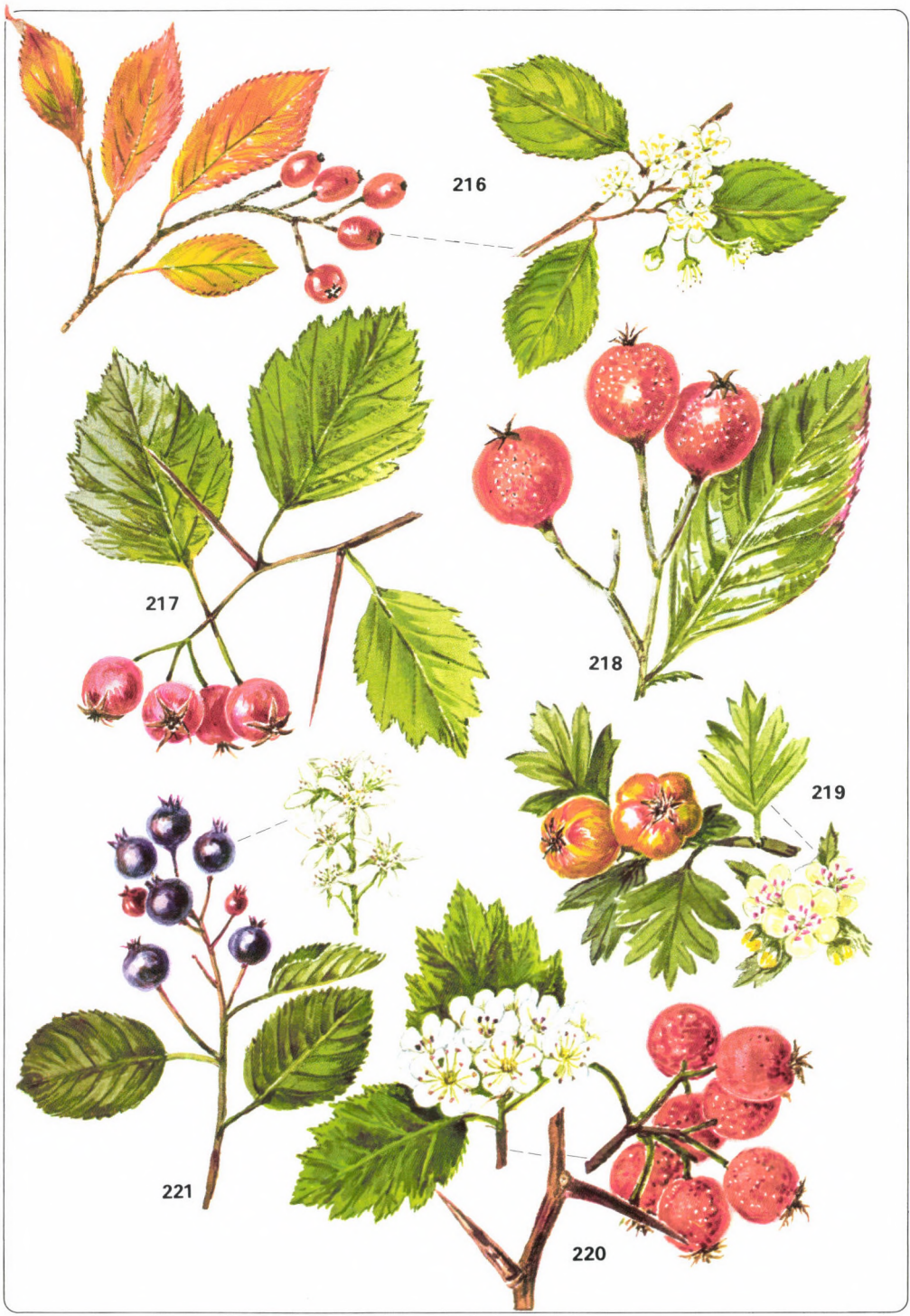


Plate 51

**222. *Amelanchier ovalis* Med. —
Service-Berry, Snowy-Mespilus**

Native of Central and South Europe, where it is a 1–3 m high, thin-branched shrub spreading with suckers. The young shoots are white tomentose, the mat dark green leaves turn orange- or scarlet-red in autumn. The white flowers come out with the leaves in April–May. Its acrid fruit, first red, later pruinose bluish black ripens continuously from August till October. Its habitats are warm, dry, sunny slopes facing south, or shaded dolomite valleys, occasionally cliffs. A valuable shrub owing to its abundant flowering, beautiful autumnal foliage and drought-resistance.

**223. *Crataegus oxyacantha* L.
'Paul's Scarlet'**
(*C. monogyne* Jacq. 'Kermesina Plena')

It is a small tree of 3–6 m with full red flowers blooming in May–June. Owing to its small crown suitably planted in narrow streets, or spaces under electric cables. It was introduced by W. Paul in England, 1866.

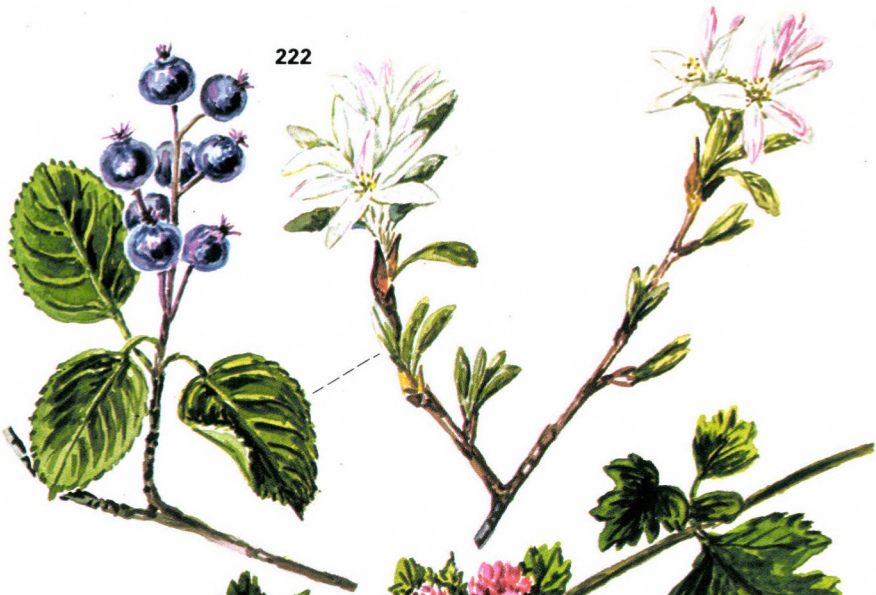
224. *Crataegus* × *prunifolia* (Lam.) Pers.

Origin unknown, most likely a hybrid of *C. crus-galli* and *C. macracantha*. It is a small tree or shrub of 4–6 m with 2–4 cm long, somewhat curved spines. Its bright dark green leaves display in autumn various shades from yellow to red. White flowers 1.5–2 cm across clustered in corymbs open in May–June. Fruit also decorative. It should be planted in a sunny spot into a deep-layered soil rich in mineral resources.

**225. × *Crataegomespilus grandiflora*
(Sm.) Bean**

An intergeneric hybrid of *Crataegus oxyacantha* and *Mespilus germanica* produced around 1800 in France. It grows into a 3–5 m high tree or shrub. The flowers come out in May–June. Its naseberry-like fruit is 1–1.5 cm long becoming ripe in October–November. Requirements are the same as for the previous species.

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Plate 52

226. *Stranvaesia davidiana* Decne.

It is a shrub originating from West China, where it may reach 6–8 m, while in Europe only 2–4 m. The evergreen leaves are elongate-lanceolate, and entire. The flowers come out in June, the pea-sized, red fruit becomes ripe in October and remains on the branches for a long time. In a sunny spot its foliage is beautifully coloured. It should be planted in a fresh soil rich in nutrients, in sunny or half-shaded places. A valuable evergreen.

227. *Aronia melanocarpa* (Michx.) Elliot — Black Chokeberry

A native of the eastern parts of North America, where it is a 1 m high deciduous shrub spreading with suckers. Its lustrous dark green leaves become reddish in autumn. The snow-white flowers bloom in May, the pea-sized, shining, pruinose black fruit becomes ripe in August–September. It is found in several arboreta but can be recommended for gardens and parks too. A photo- and thermophilous, drought-resistant shrub.

228. *Kerria japonica* (L.) DC.

It is a 1–1.5 m high, deciduous Chinese shrub, with a loose habit; branches and shoots shining light green even in winter. Its golden yellow flowers appear in April. Though its requirements are very moderate, it should not be planted in places with extreme soil conditions. Tolerant to shade. It is frequent in gardens, but the following variety is more valuable.

229. *Kerria japonica* (L.) DC. 'Pleniflora'

Is a 1.5–2 m high shrub with thin, very upright stems, spreading from the base. The large, full flowers open in April–May, but a second blooming is not infrequent. In a sunny spot with water-permeable soil rich in mineral resources it brings masses of flower.

230. *Rhodotypos scandens* (Thunb.) Mak. — Jetbead (*R. kerrioides* Sieb. et Zucc.)

It is a native of Central China and Japan; a 1–2 m high deciduous shrub, with opposite branches and leaves. Its snow-white flowers open at the apex of the shoot in May–June. The pea-sized shining black, dry fruit remains on the branches until spring. It thrives well both in sunny and half-shaded places. A drought-resistant plant.

231. *Neviusia alabamensis* Gray — Snow-Wreath

Its native land is Alabama in the United States, where it is a 1–1.5 m tall deciduous shrub spreading with suckers. Flowers have no petals, their function is taken over by the green sepals. The plant reminds one of *Spiraea*. A drought-resistant shrub with very moderate requirements, thriving well even in half-shaded places.



Plate 53

232. *Rubus phoenicolasius* Maxim.

Native of East Asia; a 2–3 m high, deciduous shrub with arched stems. Shoots thickly covered by long red, gland-tipped bristles. Its fading rose-coloured flowers bloom in June–July. Fruit orange-red, raspberry-like, continuously ripening from July onwards. No special requirements as far as soil is concerned. It should be planted in a sunny or half-shaded place. Apart from its palatable fruit, properly used as an ornamental shrub.

233. *Rubus laciniatus* (West.) Willd. — Cut-leaved Blackberry

It is a deciduous or semievergreen climbing shrub of unknown origin. Finding support for its hooked spines and quadrate stems in branches or espaliers it may climb 5–6 m high. In a sheltered place its finely cut leaves remain on the stems for a long time. Flowering time in June–July, the edible fruit ripens in August–September. Requirements are moderate.

234. *Rubus odoratus* L. — Flowering Raspberry, Thimbleberry

Its native land is in North America. It is a deciduous shrub of 1–2 m with upright stems and suckers. Leaf dark green, tomentose on both sides, very decorative. The scented flowers open from June until August, the insignificant fruit is produced from August till October. A half-shaded place and fresh,

humous soil are its optimum conditions. Usually planted for its nicely cut leaves and broad, red flowers. With its suckers it spreads rapidly and covers large surfaces.

235. *Rubus henryi* Hemsl.

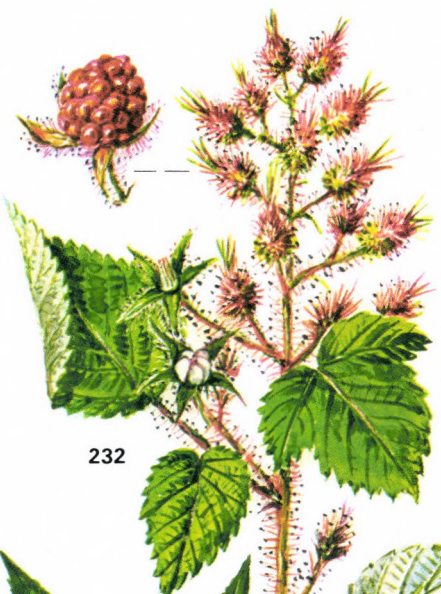
A creeping plant native of China. Leaves evergreen, deeply lobed, or sometimes entire. Light pink flowers open in June. Fruit shining and black ripens from June to September. It should be planted in a sheltered, half-shaded place with humid climate and a fresh soil. It is slightly frost-sensitive.

236. *Rubus xanthocarpus* Bur. et Franch.

1–1.5 m high shrub with upright branches and white flowers opening in June. Its edible, golden yellow fruit tasting of raspberry ripens at the end of summer. A photophilous plant with no particular demand on soil.

237. *Potentilla fruticosa* L. 'Farreri'

This deciduous, thin-branched, 60–80 cm high shrub originates from the mountains of Tibet. Flowers with petals golden yellow on both sides open continuously from May till August. It requires a sunny, warm place with normal, or loose soil. Tolerant to moderate drought. A highly valuable ornamental shrub.



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Plate 54

238. *Rosa filipes* Rehd. et Wils.

A creeping rose from West China climbing up to 3–5 m supporting itself by the sparsely thorned branches. White flowers open in June–July. Fruit 1 cm in diameter, ovoid and red, ripening from August onwards, and remaining on the branches for a long time. It has no special demand for soil or exposure.

239. *Rosa damascena* Mill. — Damask Rose

A shrub of 1.5–2 m with branches thickly covered by hooked thorns. It came to Europe from Asia Minor at about the time of the holy wars. Its fragrant flowers bloom in June–July, the 2.5 cm long hip is setaceous. The best known variety is *R. d.* 'Trigintipetala'; from its petals rose oil is extracted in the Balkan Peninsula and Asia Minor. It requires a sunny, warm place with good soil.

240. *Rosa omeiensis* Rolfe f. *pteracantha* Rehd. et Wils.

It is a shrub with upright branches reaching a height of 3–4 m. Branches armed with strikingly large, thin and flat spines and reddish setae. The spines are vivid red when young, in lateral incidence of light transparent. Flowering time in May–June, fruit is piriform and red becoming ripe at the end of summer. Owing to its peculiarly shaped spines it is sometimes called "barbed-wire rose". Its habit is especially striking in defoliated state. It has very moderate requirements.

241. *Rosa* 'Paul's Scarlet Climber'

The best known creeping rose with red flowers; it was produced in 1916 and has not since lost its popularity. It grows 3–4 m high, producing masses of bright red flowers once a year at the end of May and beginning of June. Similarly to other roses, it requires too a fresh, somewhat heavier but well drained soil with plenty of mineral salts, and sunny spot.

242. *Rosa* 'Gergelyana'

This variety was produced by the well known Hungarian ornamental plant breeder, Gyula Magyar in 1926 by crossing the varieties 'Sodenia' and 'Ulrich Brunner'. It is a 1.5–2 m high park rose with bright red flowers pale pink in the middle. The flowers are moderately fragrant and open in the middle of May. A valuable variety.

243. *Rosa rugosa* Thunb.

A 1–1.5 m high rose from the Far East with a spreading base. Branches thorny, heavily covered with setae. Leaves shining dark green turning golden yellow in autumn. Flowers 6–8 cm in diameter continuously blooming from June till August. Inclined to mounting. Fruit first orange yellow, later dark red remains long on the shoots. A valuable plant since the shoots, leaves, flowers and fruits are equally decorative making it one of the most beautiful species among wild roses. In Japan it was cultivated as early as in the 10th century. Frequently used to cover the ground. It should possibly be planted in a sunny place with good soil.

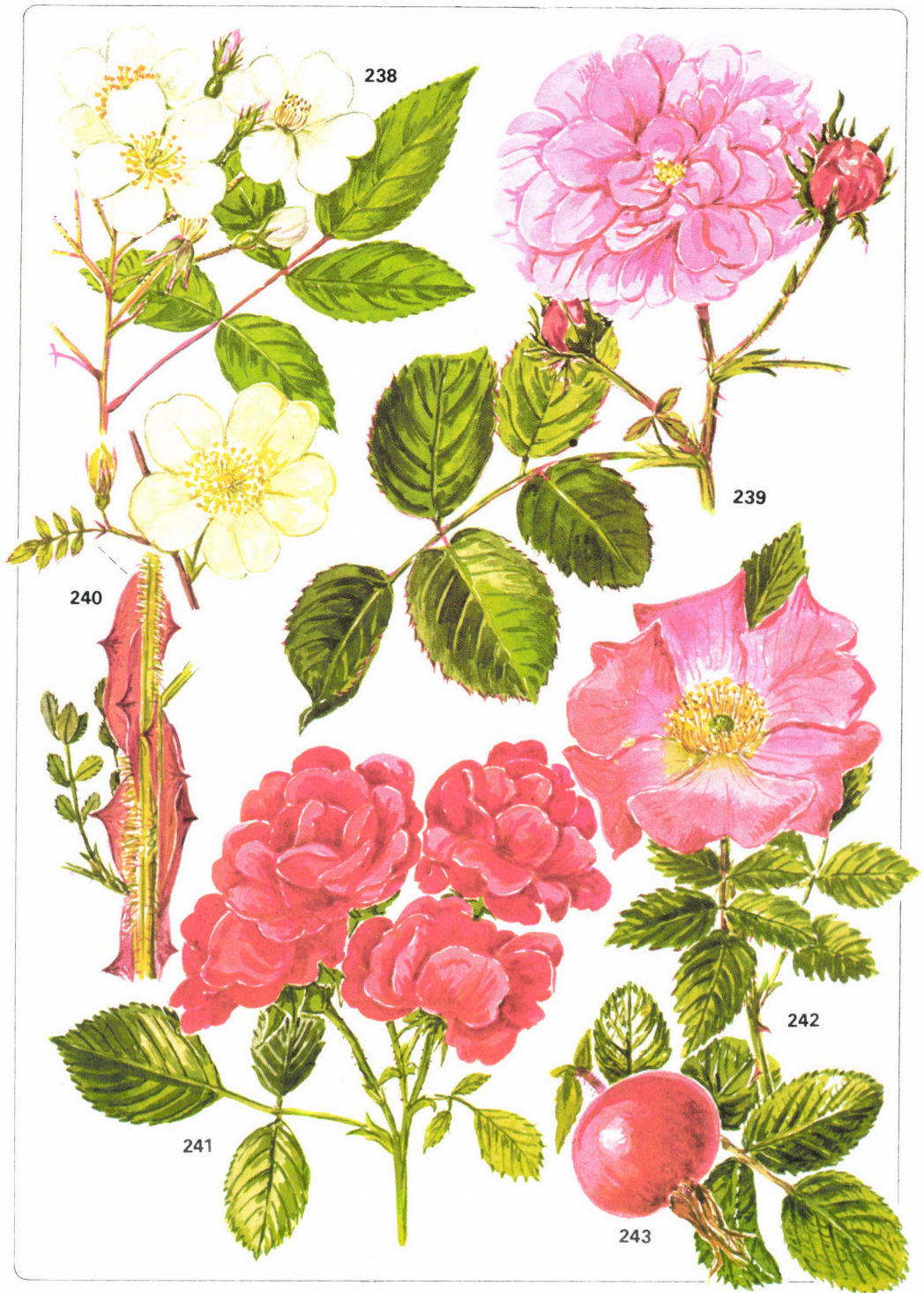


Plate 55

244. *Rosa* 'Gloria Dei'

Known also by the name "Peace". It is a multihybrid first introduced in 1945 by Francis Meilland, the famous French plant breeder, and has ever since been a much favoured teahybrid. It is a 70–100 cm high rose with beautiful foliage frequently planted in groups and used as cutflowers. Flowers continuously open from the second half of May.

245. *Rosa setigera* Michx. — Prairie Rose

It comes from North America, where it climbs up to 2–4 m, or develops into a 1–2 m high shrub with reclinate branches. Flowers open comparatively late, from June to August, are 5–6 cm in diameter, purplish pink, and scarcely fragrant, produced in a small number. In the last century it was used for breeding purposes.

246. *Rosa glauca* Pourr. (*R. rubrifolia* Vill.)

A native of the mountains of Central and South Europe, where it is a 1.5–2 m high shrub. Branches purplish red, young shoots and leaves bluish pruinose. Flowers come out in clusters and bloom in June–July. The fruit becomes ripe at the end of

summer, its colour is red. Being a montane, subalpine plant, it requires humid climate, and a half-shaded place with fresh soil. Only a small number of flowers are produced but the nice colour of foliage makes the plant an ornament of the garden or park.

247. *Rosa villosa* L. var. *sancti-andreae* (Deg. et Trtm.) Soó

It was discovered at Szentendre and has since been regarded as an endemic species of Hungary; recently more as a variety. A shrub of 1–1.5 m with sparsely spined branches; the bluish green pruinose leaves are glandular setaceous on the lower surface. The dark pink flowers open in May. Hip densely covered by glandular hair has a high vitamin C content. A photophilous, drought-resistant, attractive solitary shrub.

248. *Rosa xanthina* Lindl. f. *spontanea* Rehd.

It comes from Mongolia and the northern regions of China, where it has been cultivated for several hundred years. A shrub of 2–3 m, with thick, straight spines on the branches. The large, yellow flowers bloom in May–June, the red hip becomes ripe in July–August. The original species with its full flower is frequently planted in gardens.



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Plate 56

249. *Rosa centifolia* L. — Cabbage Rose

It came to Europe from the eastern parts of the Caucasus. It had been a much favoured garden rose before the various hybrids appeared. A 1–2 m high shrub with shoots covered by glandular hair and spines. The highly scented, full flowers bloom in June–August. In a good soil, at a sunny place it produces a profusion of flowers.

250. *Rosa chinensis* Jacq. — China Rose, Bengal Rose

It is a low rose originating from China, with scattered spines on the shoots. Flowers are produced continuously from June till September. The colour of the flowers may be pink, red or almost white. Frequently used in breeding garden roses.

251. *Rosa foetida* Herrm. — Austrian Briar (*R. lutea* Mill.)

Its native country is in Asia Minor and West Asia; in Europe it was introduced in the 13th century. After a time it disappeared from the gardens, then in the days of Turkish rule spread through Hungary and Austria to the western countries of Europe again. For some time it was therefore wrongly considered to originate from Austria, as suggested by its popular name. It is a 1.5–2 m high shrub with upright branches; on the brown shoots scattered straight prickles are found. The dark yellow flowers

opening in June smell like bugs. Best planted in a sunny place with fresh soil. It is one of the ancestors of the cultivated yellow roses of today.

252. *Rosa moschata* Herrm. — Musk Rose

Its native land extends from South Europe through Asia Minor to West Asia. A creeping rose of vigorous growth, with shoots covered by broad, hooked spines. White flowers opening in June–July emit a characteristic musky smell less perceptible in daytime, but more so in the evening. Once it was a much favoured rose frequently planted in the gardens of cloisters. Being sensitive to frost needs covering in winter.

253. *Rosa odorata* (Andr.) Sweet — Tea Rose

It originates from South China, where it has been cultivated in gardens for more than thousand years. Unknown in wild form. It came from Canton to Europe in 1809, and was then called tea-scented rose; the present name is its abbreviated form. It is a creeping rose with white, pale pink or light yellow flowers blooming from June till September. Frequently used in breeding work in the last century already. The ancestor of the tea rose varieties has transmitted many good features, such as pleasant smell, beautiful colour and shape of flowers, continuous flowering, etc. Requirements like those for most roses: sunny place, fresh soil rich in nutrients.



Plate 57

254. *Amygdalus triloba* (Lindl.) Ricker
f. **simplex** (Bge.) Rehd.
(*Prunus t.* Lindl. f. *simplex* (Bge.) Rehd.)

A 1.5–2 m high, densely branched, deciduous shrub with long shoots from China. Leaves broad elliptic or obovoid, 3–8 cm long. The simple flowers open along the last year's shoots before leaf-budding. The roundish stone-fruit of 1–1.5 cm in diameter is seldom produced. This shrub is very infrequently planted, when encountered it is in arboreta only. It was discovered some 30 years later, in 1884, than the next plant (No. 255) so that the full-flowered form was described as the nominate species, while the wild type was introduced in the literature only as its form.

255. *Amygdalus triloba* (Lindl.) Ricker —
Flowering Almond
(*Prunus t.* Lindl.)

It was Philipp Franz von Siebold, the renown botanist who in 1855 brought it from China to Europe. It became well known in a very short time and is today one of the most favoured ornamental shrubs. Its habit is the same as that of the previous form but the flowers are full. Leaves usually three-lobed. When planted in a sunny spot, with good soil rich in nutrients it brings masses of flower in spring.

256. *Cerasus mahaleb* (L.) Mill. —
Mahaleb Cherry, St. Lucie Cherry
(*Prunus m.* L.)

It is a native of Central and South Europe to as far as West Asia. A 5–10 m high tree with short trunk, sparse branches and round head, or a larger shrub. Leaves, wood and flowers fragrant. The flowers

bloom in May, the fruit becomes ripe in June–July. A photo- and thermophilous plant, living on dry, calcareous soil, tolerant to drought. In horticulture it is used as root-stock for sour cherries. Suitable for planting towns and industrial areas with polluted air. Most of the "cherrywood" pipes are produced from its wood.

257. *Padus serotina* (Ehrh.) Borkh. —
Wild Black Cherry
(*Prunus s.* Ehrh.)

In its native country, North America, it is a 15–20 m high tree with slightly elongated crowns, or a shrub often with several trunks. Its shining, dark green leaves turning yellowish red in October remain on the branches even until November. The white flowers open in May–June on the short-leaved lateral branches in racemes. The bitterish fruit first red, later becoming blackish purple ripens in July–August. The stones are disseminated by the birds, thus, it frequently springs up as a weed. Requirements very moderate; it subsists even in dry sand and tolerates half-shade. When planted in better soil it is of rapid growth.

258. *Laurocerasus officinalis* Roem. —
Common Cherry-Laurel
(*Prunus laurocerasus* L.)

A native of the Balkan Peninsula, South-east Europe and Asia Minor, a 2–4 m high shrub, sometimes a small tree. The leaves are evergreen, thick and leathery. The white flowers appear in full, upright racemes in May. The shiny, black, juicy fruit of the size of a pea ripens in summer. It requires a humid climate with a fresh heavy soil. It is one of the most favoured broad-leaved evergreens of which many fine varieties are known.



Plate 58

- 259. *Cerasus glandulosa*** (Thunb.) Loisel.
'**Sinensis**' (*Prunus g.* Thunb.)
var. *sinensis* Koehne, *P. sinensis* Pers.)

This 1–1.5 m high, thin-branched, deciduous shrub reached Europe from East Asia. Flowers compact and full with narrow and pink petals, opening at the beginning of May simultaneously with leaf-budding. Known since 1700 and then frequently planted, but has gradually been replaced by *Amygdalus triloba*, a species with larger flowers opening before leaf-budding. It requires a sunny place and good soil.

- 260. *Cerasus glandulosa*** (Thunb.) Loisel.
'**Albiplena**'
(*Prunus g.* Thunb. var. *albiplena* Koehne)

Very similar to the previous species but its full flowers are snow-white in colour. The foliage turns purplish pink in autumn. A highly valuable variety.

- 261. *Padus virginiana*** (L.) Roem. —
Choke-Cherry (*Prunus v. l.*)

It originates from the western parts of North America; a 8–10 m high deciduous tree. Its bare branches are adorned with white lenticels. The white flowers clustered in 7–14 cm long racemes open at the end of May and beginning of June. Fruit dark red when ripe frequently picked by birds. It has very moderate requirements; base with off-shoots is therefore suitable for binding moving soils or rain-washed areas.

- 262. *Cerasus japonica*** (Thunb.) Loisel. —
Dwarf Flowering Cherry (*Prunus j.* Thunb.)

It is a 1–1.5 m high, thin-branched, deciduous shrub, a native of China and Korea, introduced in Japan too. Its pale rose-coloured flowers come out simultaneously with leaf-budding. The spherical, wine-red fruit becomes ripe in October. Sunny place and good soil are required for this moderately drought-resistant, low ornamental value shrub.

- 263. *Prunus cerasifera*** Ehrh.
'**Hessei**' — **Hesse's Myrobalan**

A 3–4 m high, broad shrub. Leaves dark brownish red and lanceolate, margins irregularly obtuse-

serrate with a yellow stripe all round. It should be planted in a sunny place. An ornamental shrub with beautiful leaves, very decorative among other colour-leaved plants.

- 264. *Prunus cerasifera*** Ehrh.
'**Atropurpurea**' — **Purple Myrobalan**
(*P. pissardii* Carr.)

It is a small tree of 5–6 m, or a high shrub with brownish red, later dark red leaves. Its pale rose-coloured flowers bloom in April, the plum-like fruit is red. One of our most popular coloured shrubs which came to the European gardens at the end of the last century from Persia. To obtain the dark red colour of foliage we have to plant it in a sunny place.

- 265. *Prunus cerasifera*** Ehrh.
var. **divaricata** (Ledeb.) Bailey

A native of Asia Minor and the Caucasus, where it is a small tree of 6–8 m. It has no ornamental value since the leaves are green, and the flowers small and white. The fruit is spherical and yellow. Its drought-resistance is excellent.

- 266. *Cerasus sargentii*** (Thunb.)
Loisel. — **Sargent's Cherry**
(*Prunus s.* Rehd.)

Native of the island of Sakhalin where it is a pyramidal or ovoid 15–25 m high tree. In Europe it is much smaller. The young leaves are bronze and turn scarlet-red in autumn. Its rose-coloured flowers come out very early, already in April before leaf-budding. The fruit is shining, dark red becoming ripe in June–July. It is one of those ornamental cherries which have the most beautiful flowers. It should be planted in good soil at a sheltered warm place.

- 267. *Cerasus serrulata*** (Lindl.) G. Don
'**Pink Perfection**'
(*Prunus s.* Lindl. 'Pink Perfection')

It is a 8–10 m high tree with broad head and rapid development. The large, full, light pink flowers open at the end of April, beginning of May. The leaves turn orange-yellow in autumn. Its ornamental value and requirements are similar to those of the previous species.



Plate 59

268. *Prinsepia uniflora* Batal.

It originates from Central China; a 1–1.5 m high deciduous shrub with pendulous branches covered with spines. Flowers fragrant and white come out in April–May. The blackish purple, pruinose fruit becomes ripe in August. Being slightly frost-sensitive, it had better be planted in a sunny place.

269. *Prinsepia sinensis* Oliv.

Very similar in habit to the previous species, but somewhat higher than that. Its glabrous green leaves come out quite early. The yellow, scented flowers opening in April are 1.5 cm in diameter. The small, sour-cherry-like dark red fruit is very palat-

able, in the northern parts of China, its native country, it is frequently consumed. While helio- and thermophilous, it is less sensitive to frost than the previous species. An interesting rather than beautiful plant.

270. *Osmaronia cerasiformis* (Torr. et Gray) Greene — **Oso-Berry**

It is a native of the western parts of North America; a 2–5 m high deciduous shrub with a creeping base. It produces leaves very early, in March. Its fragrant, white flowers open in May, while the fruit becomes ripe in August. Its main value lies in the early leafing. It should be planted in a fresh, loose soil, at a half-shaded place.

Caesalpinaceae — Caesalpinia Family

271. *Cercis canadensis* L. — **Redbud**

The name is somewhat misleading, since it originates from the eastern and southern parts of the United States and not from Canada. A big shrub, or a 6–8 m high tree with several trunks. Its wood is hard and reddish brown. The light pink flowers open before leaf-budding forming small clumps on the sides of the branches and trunks. Prefers a fresh soil with plenty of nutrients, a sunny place, and is only moderately drought-resistant. Flowers appearing on the older plant parts are extremely attractive. The foliage turns yellow in autumn.

272. *Maackia amurensis* Rupr. et Maxim. (Fabaceae — Pea Family)

In Manchuria, the northern part of China, it is a 10–15 m high tree, but in Europe only a large shrub or a small tree. Its upstanding racemes bloom at the apices of shoots in July–August. While surviving in any better soil, it requires much sunshine. Its ornamental value is low.

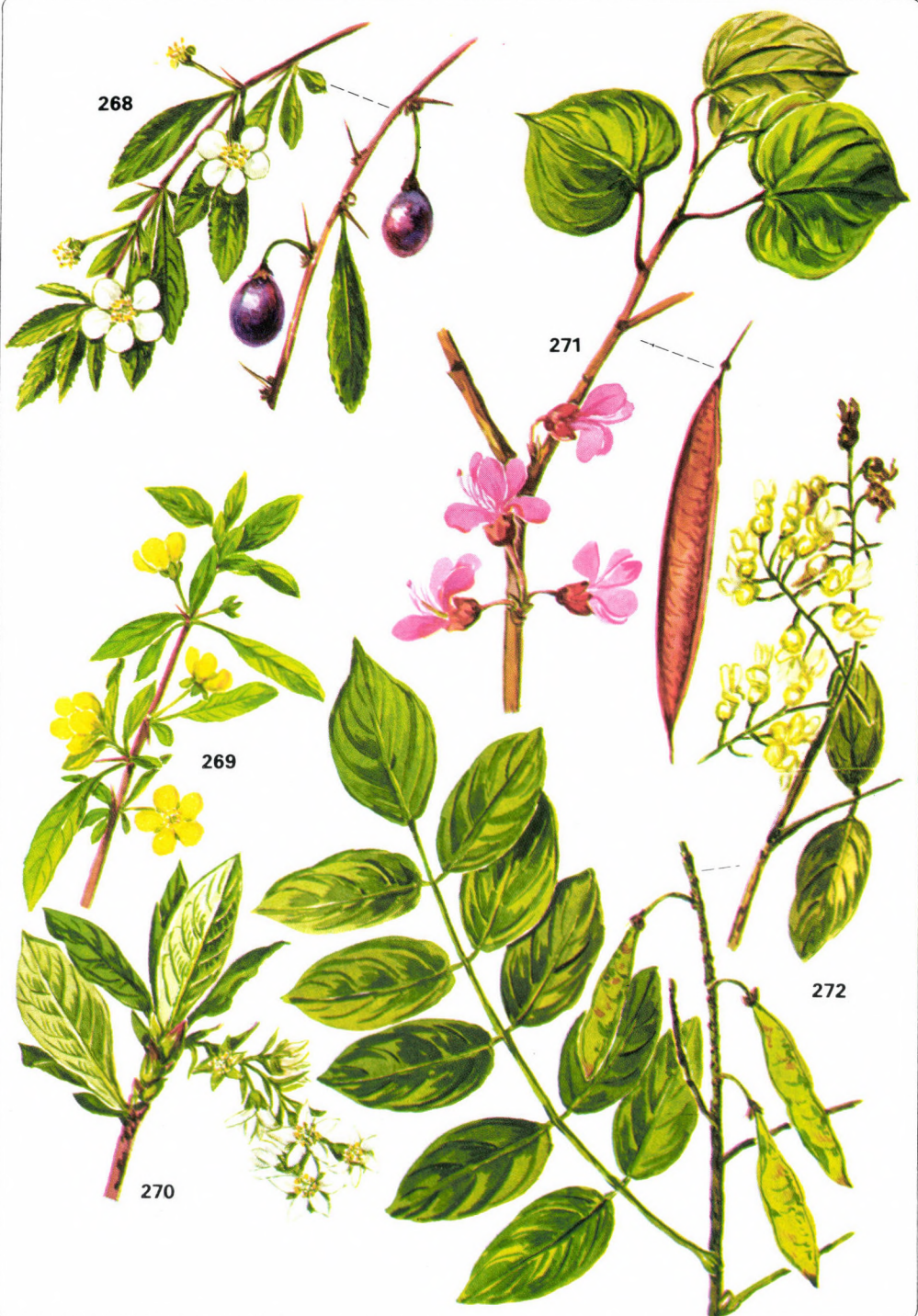


Plate 60

**273. *Cercis siliquastrum* L. —
Judas-Tree**

A large shrub or a 5–6 m high, deciduous tree with several trunks in South Europe and West Asia. The reniform leaves appear late and turn yellow in autumn. The purplish pink flowers bloom before leaf-budding in April–May, in clumps or short clusters along the shoots, but mainly the older branches or even on the trunks. Its dark brown pods remain on the plant until next spring. The foliage becomes yellow in autumn. Best planted in calcareous soil, at sunny, warm places, a drought-resistant plant. Quite frequently occurs in our gardens and parks. Since it stands pruning well, a fine clipped hedge can be developed from it.

**274. *Sophora japonica* L. —
Japanese Pagoda-Tree, Scholar-Tree
(Fabaceae — Pea Family)**

Despite its name it is a native of China and Korea and not of Japan. A tall, 20–25 m high, deciduous tree with a broad ovoid head. Its shoots and young branches are green. Its greenish yellow flowers clustered in panicles at the apices open in July–August. Fruit many-seeded housed in a fleshy pod. It requires a warm, loose soil rich in minerals at a place with plenty of sunshine. Being tolerant to polluted air, it is suitable for planting towns, though should not be planted by the side of the road since the fallen fruit when crushed makes the surface slippery. Especially favoured for its summer flowering.

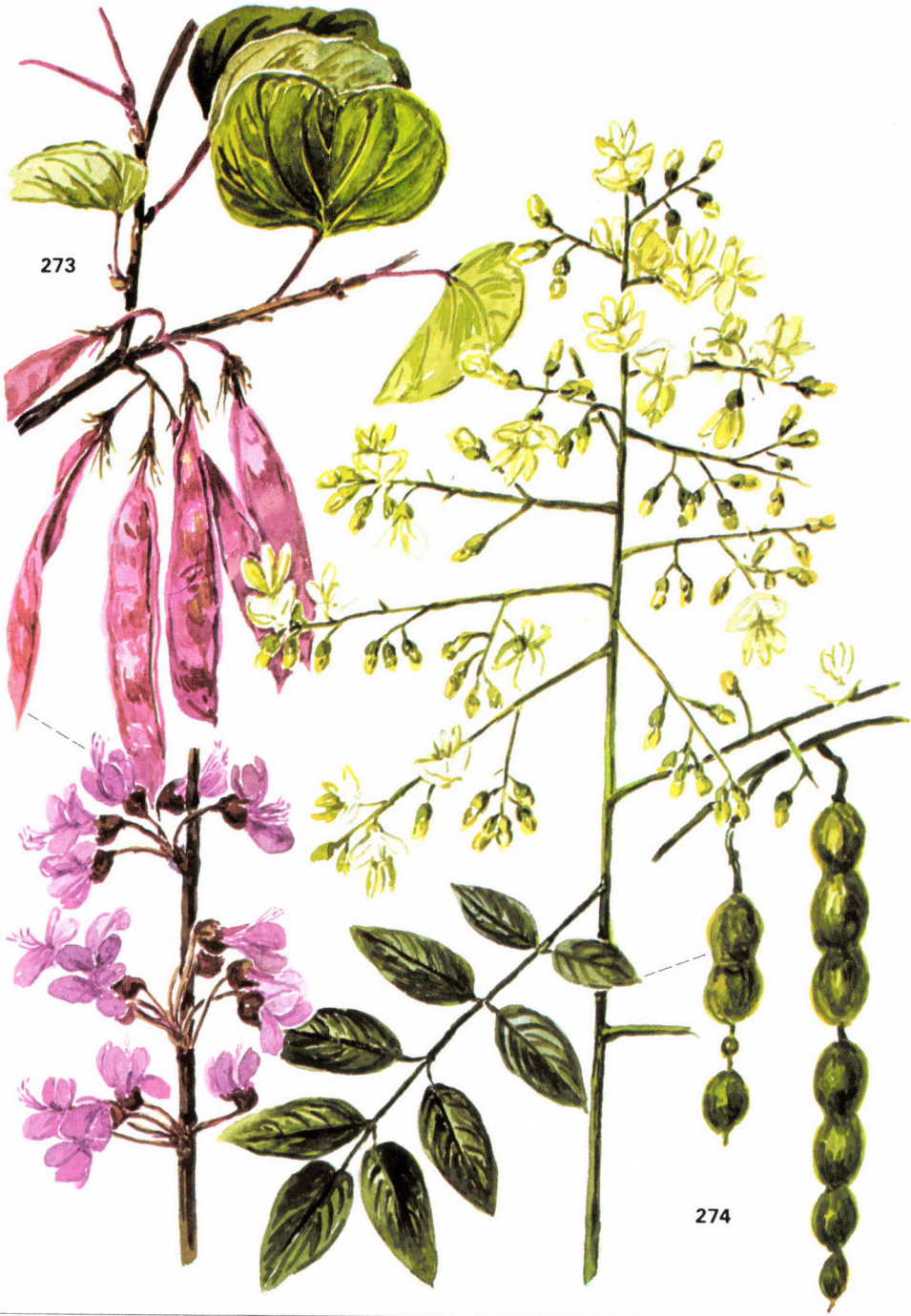


Plate 61

**275. *Sophora japonica* L. 'Violacea' —
Purplish Japanese Pagoda-Tree**
(Fabaceae — Pea Family)

This variety of the Japanese Pagoda-Tree differs from the latter by the colour of its flowers. The standard is white, but the wings and keel of the papilionaceous flower are tinged with purplish. It is moderately drought-resistant.

276. *Sophora davidii* (Franch.) Skeels
(*S. viciifolia* Hance.)
(Fabaceae — Pea Family)

In West China it lives on dry, sandy soil. An about 2 m high, deciduous shrub producing a profusion of flowers in June. Fruit with 1 to 4 seeds, a constricted pod. It is somewhat frost-sensitive. A plant of dendrological interest though without any special ornamental value.

277. *Gleditsia triacanthos* L.
'Pendula' —
Pendulous Honey Locust
(*G.t.* var. *bujotii* Rehd.)

It is a large, deciduous tree with thin, pendulous branches. Its most striking feature is its pinnate

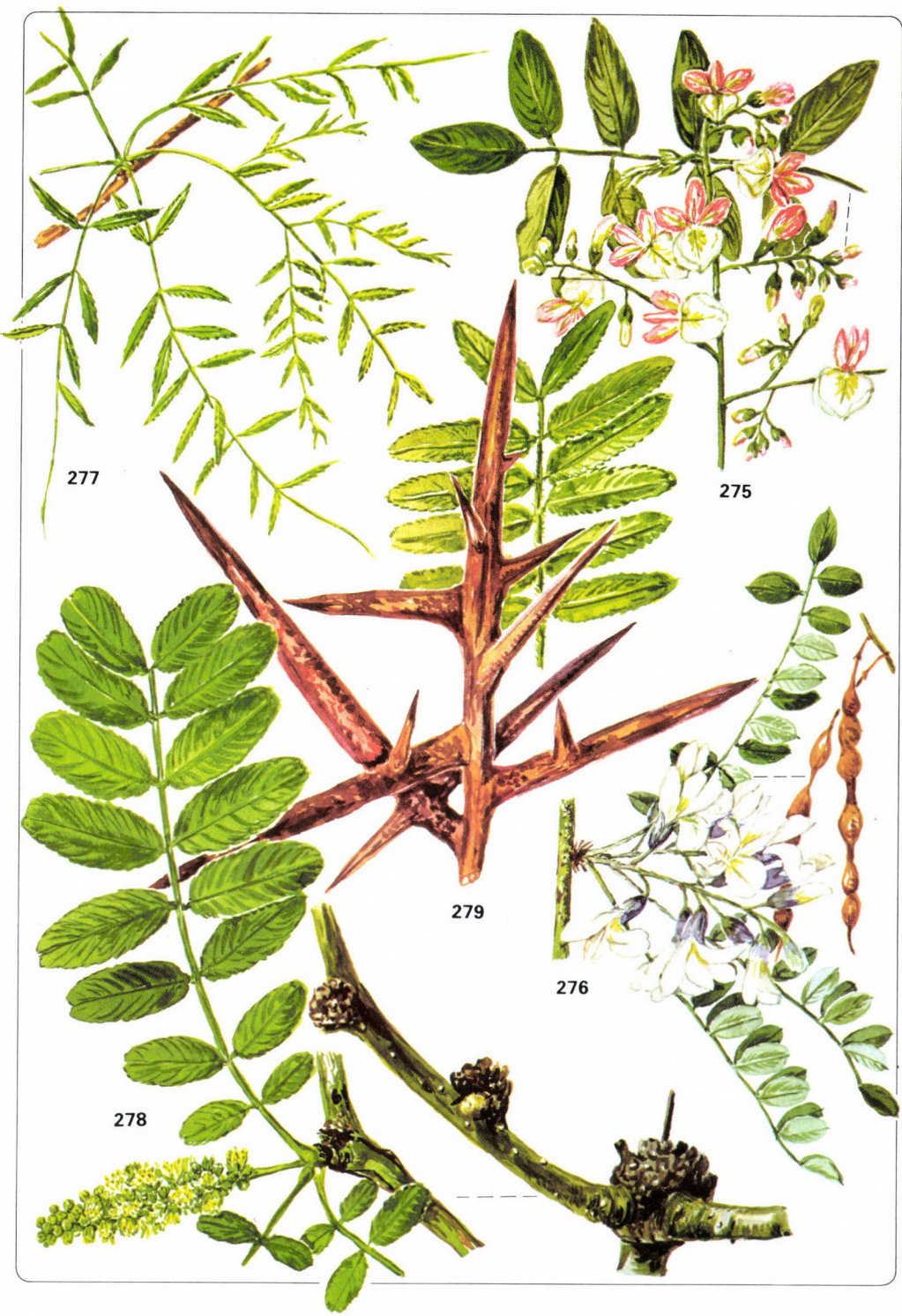
leaves divided into many oblong-lanceolate leaflets producing a loose, fine foliage. Some beautiful specimens can be seen all over Europe.

**278. *Gleditsia caspica* Desf. —
Caspain Locust**

A 10–12 m high tree in the region of the Caspian Sea. Leaves appear rather late, turning yellow in autumn. Its greenish flowers bloom in June. The fruit is a long, curved pod. It requires a loose, warm soil and a sunny place. Particularly resistant to drought.

**279. *Gleditsia sinensis* Lam. —
Chinese Locust**

Native of China and Mongolia. A medium high, deciduous tree with long, conical branching spines on the trunk and branches. Pinnate leaves composed of 8–14, rarely of 18 leaflets. Flowers open in June; pod 15 to 25 cm in length. All species of *Gleditsia* require light and warmth. When planted in good soil they develop rapidly, though survive even on a poor sandy soil. Pests do not attack them. Crown attractive, later becoming somewhat flattened. The autumn foliage is yellow. They stand polluted air well.



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Plate 62

Fabaceae (Papilionaceae) — Pea Family

280. *Spartium junceum* L. — Spanish Broom

Native of the Mediterranean countries; a 1.5–3 m high shrub with cylindrical, green stems. It scarcely brings leaves, assimilation is effected through the green stem. Flowers golden yellow and fragrant, opening from June till September. Being sensitive to frost, it should be planted at a sunny, dry place in loose soil. Under cooler climates needs shelter. In such places it had better be covered up at the end of autumn so as to be protected from the coming winter frosts. It is a most peculiarly shaped shrub.

281. *Cladrastis lutea* (Michx. f.) K. Koch — Yellow-Wood

Native of the south-eastern parts of the United States, where it is a 6–10 m high tree with a round head. Its heartwood is yellow, whence its popular name. Buds are hidden, encircled by the base of the

petiole, this feature well distinguishes it from a very similar species: *Maackia amurensis* which has free buds. Flowers resembling those of false acacia, though its white and fragrant panicles opening in May–June are looser. The autumn foliage is yellow. It should be planted in good soil at a warm, sunny place, protected from the wind since the branches are very breakable.

282. *Petteria ramentacea* (Sieber) Presl — Dalmatian-Laburnum

A 1.5–2 m high, deciduous shrub in dry, warm, sunny places of the Balkan Peninsula. Flowers large and fragrant clustered into upright, full panicles blooming at the apices of shoots in May–June. It should be planted in larger rock-gardens or on dry hill-sides. A very decorative shrub.

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Plate 63

283. *Amorpha fruticosa* L. — False-Indigo

Native of the eastern and south-eastern parts of North America; a 3–4 m high deciduous shrub. Leafing late in the season; the leaves much resemble those of acacia. Its upright panicles bloom in June–August. Pods 6–8 mm long, somewhat bent, containing usually 2 seeds only. It has very moderate requirements, thriving well in almost any kind of soil. A thermophilous plant requiring much light. It grows rapidly, and is therefore frequently used in shelter-belts and suburban parks.

284. *Gymnocladus dioica* (L.) K. Koch — Kentucky Coffee-Tree (*G. canadensis* Lam.) (Caesalpinaceae — Caesalpinia Family)

A 20–25 m high deciduous tree with thin crown and sparse branches native in the central and eastern parts of North America. Leaves very large bipinnate with several pairs of pinnae, sometimes as long as 80 cm. Its autumn foliage is of a lovely yellow

colour. Dioecious flowers clustered into terminal panicles open in June. The pods are 10–20 cm long, open when ripe, remaining on the branches for a long time. It requires a deep-layered, not too dry soil. A thermophilous plant demanding light, though when young tolerates half-shaded places. It grows slowly, and brings leaves very late in spring. It is a valuable park tree owing to its large leaves and characteristic branch system.

285. *Laburnum anagyroides* Med. — Common Laburnum, Golden-Chain, Bean-Tree

Native of South Europe; a 5–7 m high shrub or small tree. Its green-barked stems rigidly upright at the beginning, later somewhat arcuately bending outward. The scentless yellow flowers open in great quantities in May–June. Best planted in moderately dry, calcareous soil in a warm sunny place, though stands half-shade fairly well. Being tolerant to urban conditions it is frequently encountered in parks and gardens.

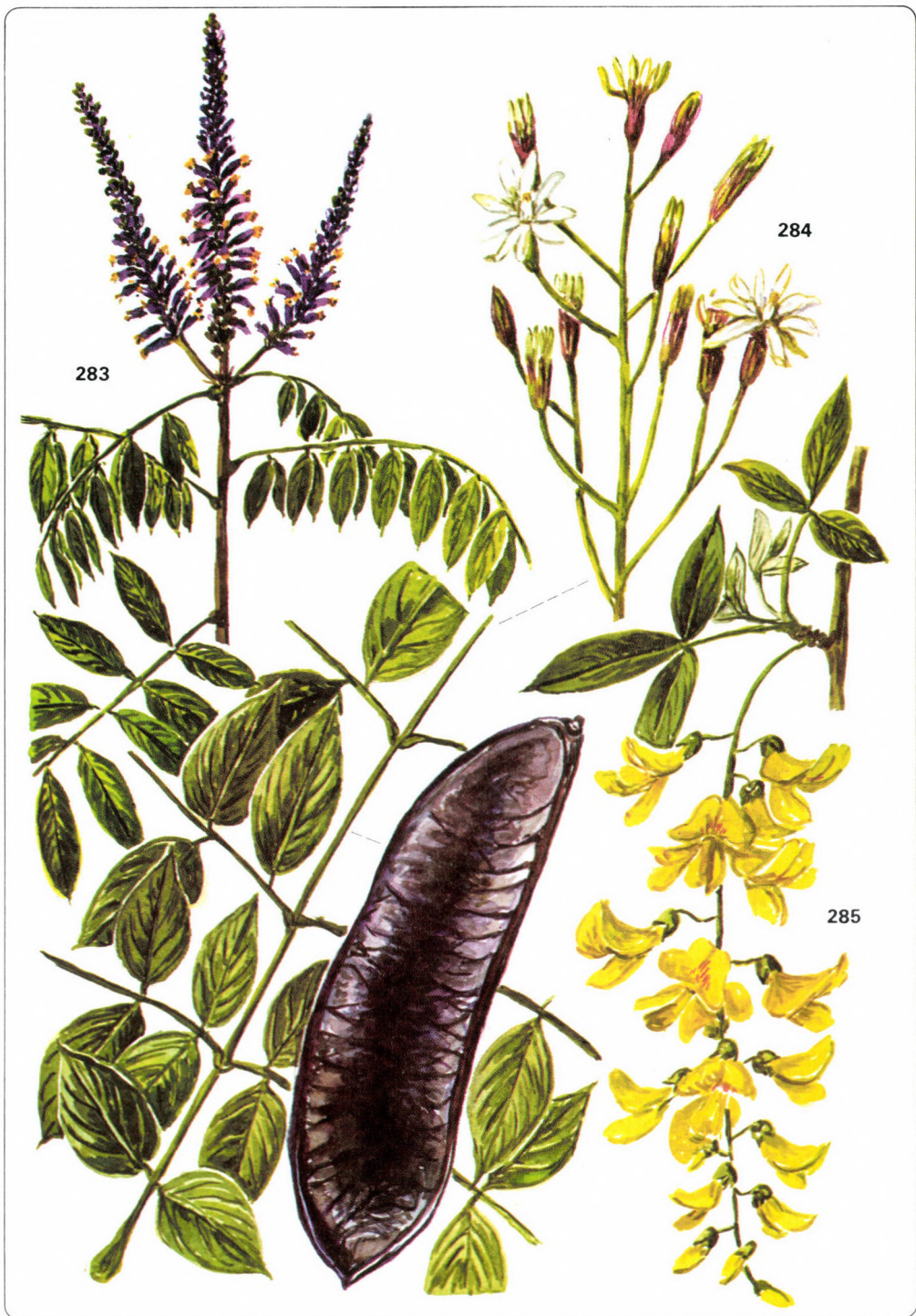


Plate 64

286. *Laburnum alpinum* (Mill.)

Bercht. et Presl —

Scotch Laburnum, Alpine Laburnum

Native of the Alps and South Europe. It is 3–4 m high with upright yellowish green branches, pendulous yellow racemes emit a very pleasant odour in June. It requires a sunny or half-shaded place with a normal, fresh soil. When in blossom it is a very decorative shrub.

287. + *Laburnocytisus adamii* (Poit.) Schneid.

An intergeneric chimera produced in 1825 in France by grafting *Cytisus purpureus* on *Laburnum anagyroides*. Curiously enough, the yellow *Laburnum*-, the purplish *Cytisus*- and the pale purplish *Laburnocytisus* flowers open in May–June all on the same shrub. It should be planted in good soil at a sunny spot. A uniquely interesting plant resembling *Laburnum*.

288. *Cytisus sessilifolius* L.

A 1–1.5 m high, densely branched shrub, native of South Europe and North Africa. Its thin shoots and

branches are green. Terminal, pale yellow flowers clustered in loose racemes bloom in May–June. It has no special requirements but prefers a sunny place with dry soil.

289. *Cytisus purpureus* Scop.

(*Chamaecytisus p.* (Scop.) Link)

It is native in the Alps in Yugoslavia, South Austria, North Italy and in the high mountains in South-eastern Europe. It is a small shrub of 50–80 cm, with green bark, the lowermost branches occasionally prostrate. The purplish flowers open in May–June all along the branchlets. Several fine varieties are known. A plant for sunny or half-shaded places with moderately dry soil.

290. *Ulex europaeus* L. — Gorse, Furze, Whin

Native of the western parts of Europe, mainly of grassy coastal parts and pastures. It is 50–100 cm high with green branches thickly covered with spines. The golden yellow terminal flowers open in large numbers in May–June. It should be planted in sandy soil free of lime. In Central Europe covering in winter is advised.

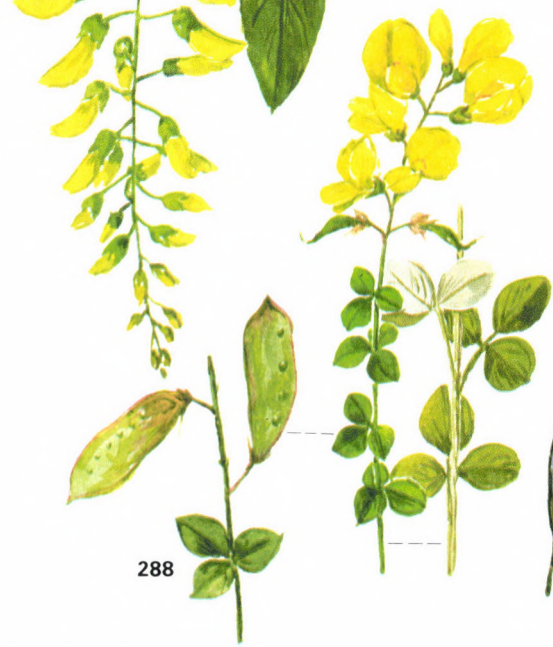


Plate 65

291. *Wisteria sinensis* (Sims) Sweet — Chinese Wisteria

A shrub from China; with shoots twisting clockwise it may even climb to 8–10 m high. Flowers slightly fragrant, opening before leaf-budding, in April–May. All flowers of the long raceme open almost at the same time. Fruit a velvety hirsute pod. It requires a deep-layered loose soil rich in nutrients in a sunny, warm place. It develops rapidly. It brings flowers in abundance and is therefore suitably trained on lattices especially on the sunny side of the house. Frequently encountered in gardens.

292. *Robinia hispida* L. — Rose Acacia

Native of the south-eastern parts of the United States, a 1–1.5 m high sparsely branching shrub with a spreading base. Gardeners usually graft it on the common acacia, thus, sometimes even a small

tree may develop from it. The stems and shoots are covered by long, brownish red setae. The large flowers are scentless, but—as if in compensation—open continuously from June till September. It should be planted into loose, warm soil, at a sunny place protected from the wind since the branches are ready to break. Its flowers are the most beautiful ones among the false acacias.

293. *Robinia viscosa* Vent. — Clammy Locust

Native of the south-eastern parts of the United States. A 8–12 m high tree with a roundish crown and glandular, sticky shoots. Scentless flowers in dense racemes open in June–August. Requirements similar to those of the previous species. Branches also easily broken by the wind. Owing to its colourful flowers it is frequently planted as an ornamental tree. Usually propagated by grafting.



Plate 66

**294. *Wisteria floribunda* (Willd.) DC. 'Alba' —
White Japanese Wisteria**

A shrub from Japan with twisting shoots climbing up to 6–8 m. Flowers fragrant and white arranged in long, loose racemes, bloom abundantly in May–June. It should be planted in deep-layered, fresh, loose soil rich in nutrients, that should be at a warm, sunny place. A shrub of fast growth, suitably trained on lattices, fences, trellises.

**295. *Robinia neomexicana* A. Gray
var. *luxurians* Dieck
(*R. luxurians* (Dieck) Schneid.)**

A larger shrub or an 8–10 m high tree in the south-western parts of the United States. Shoots spiny, when young glandular setaceous. Flowers pale rose-coloured, clustered in full racemes blooming from June till August. The pods are 6–10 cm long covered by glandular hair. Photo- and thermophilous, drought-resistant. Survives even on a poor soil. Valuable for flowering in summer.

**296. *Robinia pseudoacacia* L. 'Unifoliola' —
Unifoliolated Black Locust**

It differs from the common false acacia only by its leaf which is not pinnate but consists of a 6–15 cm large leaflet sometimes with 1 or 2 smaller leaflets underneath. It has very moderate requirements.

**297. *Sarothamnus scoparius* (L.) Wimm.
'Andreanus' — Scotch Broom
(*Cytisus s.* (L.) Link 'Andreanus')**

A 0.5–1 m high plant with broom-like branches in Central and South Europe. Branches prominently angled in cross-section, are green, and so are the branchlets and shoots. The fragrant, large flowers open in May–June. The nominate species has bright yellow flowers, while the flowers of this variety are golden yellow except the reddish brown wings. It does not survive in calcareous soil. Best planted in a sunny or half-shaded place.



Plate 67

**298. *Colutea* × *media* Willd. —
Bladder Senna**

It is a 2–3 m high, deciduous shrub produced by crossing *C. arborescens* and *C. orientalis*. Flowering in June–July. Pods inflated with membranous walls. Prefers a loose warm, calcareous soil in a sunny place. It stands drought well. Flowers and fruit are equally decorative.

**299. *Halimodendron halodendron* (L.) Voss —
Salt-Tree**

Native of Central Asia; a 1.5–2 m high deciduous shrub with greyish or bluish green leaves. The apex of the rachis and the stipules are prickly. Slightly fragrant flowers appear in the axils of leaves in June–July. It is of fine foliage and abundant flowering. While photophilous, is not very particular about soil, withstands even a prolonged drought.

300. *Caragana frutex* (L.) K. Koch

Its native land extends from the southern parts of the Soviet Union to East Siberia. A 1.5–3 m high shrub with mat, green, pinnate leaves. The bright yellow flowers open in May–June. It has very moderate requirements but when possible should be planted in a calcareous, loose, warm soil at a sunny or half-shaded spot. Recommended for non-irrigated gardens and parks. Since its base is spreading, older specimens may eventually become quite large.

**301. *Caragana arborescens* Lam. —
Pea-Tree**

A large shrub from Siberia and North China. The young branches and the shoots are green. The flowers come out in May. As for its requirements they are very similar to the previous species. Frequently encountered in parks and gardens.

302. *Caragana pygmaea* (L.) DC.

Outside North-eastern China and Siberia, its native land, it is seen only in arboreta. A 0.5–1 m high shrub sometimes with prostrate branches. Flowers open in May–June. With its small leaves it is a highly decorative plant which should be planted in dry, sunny places, in larger rock-gardens or on slopes.

303. *Caragana jubata* (Pall.) Poir.

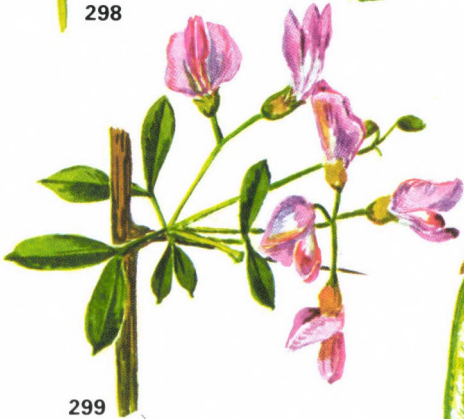
It comes from Central Asia; a sparsely branched shrub with spiny rachis covering the branches and shoots. Its single rosy-white flowers bloom in May–June. The pods are 2 cm long, densely hirsute. It is a peculiar ornamental shrub with requirements and application similar to those for the previously discussed species.



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Plate 68

**304. *Coronilla emerus* L. —
Scorpion Senna**

A 1–2 m high shrub with a loose habit, native of Central and South Europe. In Hungary it is found on dry, sunny and stony hill-sides north and west of Lake Balaton. Flowers open in May–June in twos and threes. The green shoots and the branches—particularly attractive when leafless—are frequently consumed by the hare. In wet soil it is frost-sensitive.

305. *Coronilla emeroides* Boiss. et Sprun.

A South European shrub somewhat smaller than the previous species, at most one metre. Flowers open in May–June; four to seven of them form inflorescence. It requires dry, warm soil and a sunny habitat.

**306. *Lespedeza bicolor* Turcz. —
Bush-Clover**

Native of East Asia, a 1.5–2 m high, deciduous shrub with thin, arcuate branches. Terminal flowers grouped into loose panicles in the axils bloom in the second half of the summer for several weeks, wherefore it is highly valued. It requires medium dry, loose soil rich in nutrients and a sunny place.

307. *Lespedeza thunbergii* (DC.) Nakai

A shrub similar to the previous species; also a native of China and Japan. The long shoots have pendulous tips. The purplish flowers bloom from August till October. Under colder climate it is somewhat frost-sensitive, but this does not influence the next year's production of flowers. Requirements as for the previous species.



Plate 69

- 308. *Pueraria thunbergiana* Benth. —
Kudzu-Vine
(*P. hirsuta* Schneid.)**

A Far-Eastern creeper living in the shade of trees and shrubs, and covering a large surface in a very short time or climbing up high supported by a tree, which is almost strangled under its weight. In most

parts of Europe it behaves like a sub-shrub, dying in winter back to the base, but growing again even 10 m high next year. Under less severe climatic conditions it may even climb higher than 20 m developing a trunk of the thickness of an arm. The flowers come out in June–August. It requires fertile soil, high temperature, sufficient water and humidity.

Mimosaceae — MimosoFamily

- 309. *Albizzia julibrissin* Durazz.
var. *rosea* Mouill. —
Silk-Tree, Pink Siris**

The typic form lives in warmer regions from Persia to Japan. It is a tree of some 8–10 m with a flattish head. This variety differs from the typic form by

its darker pink flower. Normally it is a small tree. Flowering from June till August. Being rather frost-sensitive when young, in many places it requires covering for the winter for many years when young. A sheltered sunny place, and moderately dry soil are its demands. It is much favoured for its peculiar flower and decorative, loose foliage.

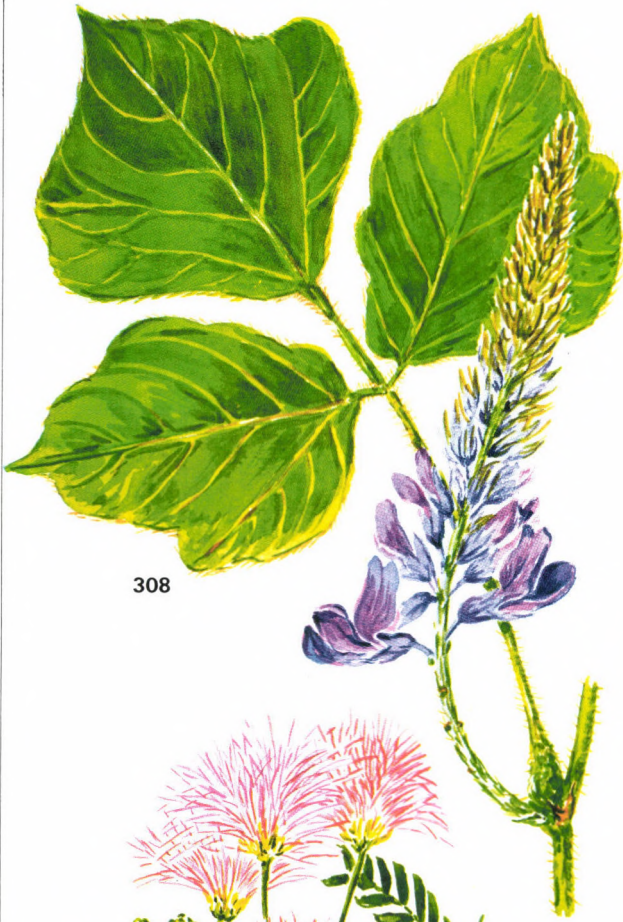
Rutaceae — Rue Family

- 310. *Zanthoxylum alatum* Roxb.
var. *planispinum*
(Sieb. et Zucc.) Rehd. et Wils.**

It is a shrub of medium height from the Far East with broad and flat spines set in double rows on the shoots. The spines like in the other *Zanthoxylum* species, are continuously growing and become ever larger and broader at the base, whereby the age of the shrub can be established similarly to the annual rings of trees. The broadly pinnate rachis is a characteristic feature of the plant. The flowers come out in June, the fruit becomes ripe in September. Its ornamental value lies in its peculiar, often overwintering leaves, the spiny branches and trunk. It requires a sunny, warm place.

- 311. *Zanthoxylum americanum* Mill. —
Prickly-Ash**

Native of the eastern parts of North America, a shrub or a small tree with strong spines on the branches and shoots. Leaves composed of 5–11 leaflets emitting an aromatic odour. Flowers insignificant, appearing just before or simultaneously with budding in April–May. Its ornamental value is low, only the prickly branches are interesting. Frost-sensitive when young.



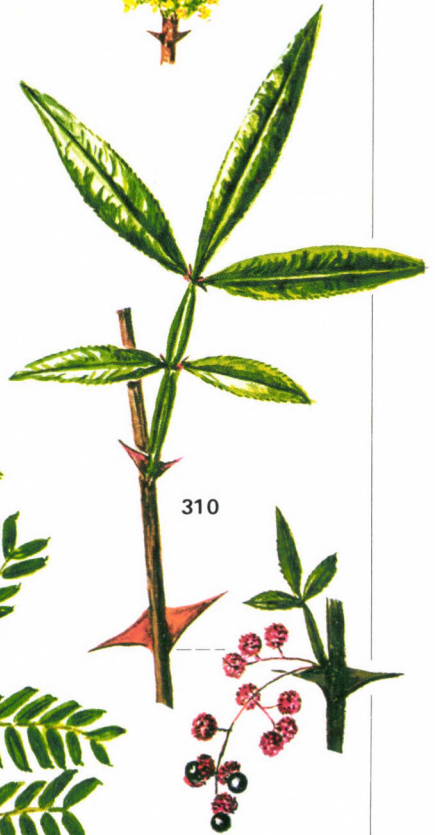
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Plate 70

312. *Euodia hupehensis* Dode

A 5–15 m high deciduous tree from Central China. Its tiny, whitish flowers forming a large panicle open in July–August. The fruit is 0.5 cm in diameter: a reddish brown pod remaining on the branches for a long time. It should be planted in loose, medium heavy, moderately dry soil, requires much light and warm temperature. Somewhat frost-sensitive when young. Being a good honey-bearing tree its planting is urged by the bee-keepers.

313. *Orixa japonica* Thunb.

Native of Japan; a 1.5–3 m high, deciduous shrub with upright branches. Its glabrous, dark green leaves are translucently punctate, and emit an aromatic odour when crushed. Its dioecious hardly

perceptible flowers forming racemes open in April–May. Fruit rarely produced in Europe. A shrub with very moderate requirements developing well in any fairly good soil at sunny places.

314. *Skimmia japonica* Thunb.

A 1–1.5 m high evergreen shrub of Japanese origin. Leaves thick, leathery bespeckled with translucent dots sitting near the apices of each year's shoots. Small flowers open in May. Fruit spherical or slightly flattened, becomes red in October and remains on the shrub throughout the winter. It requires a fresh humous soil, does not withstand strong insolation, and should therefore be planted in half-shaded or even shaded places. Being a dioecious plant only produces fruit if male and female plants are found near each other.



Plate 71

**315. *Phellodendron amurense* Rupr. —
Amur Cork-Tree**

A 10–15 m high deciduous tree with a broad, loose head, originating from Far East. Bark deeply fissured, corky. Leaves come out late, the dark green leaflets are entirely glabrous below and translucently punctate at the margin. The tiny flowers are clustered into large panicles in June. Fruit pea-sized, fleshy and black, a five-seeded drupe. It requires a medium heavy, warm soil rich in nutrients at a sunny place. Somewhat frost-sensitive when young. Foliage yellow in autumn.

316. *Phellodendron japonicum* Maxim.

Native of the central part of Japan. It has very similar characteristics as the previous species but its bark is not corky and the dull green leaves are densely villous below. The yellow colour of the autumn foliage, and the demands of the plant are the same as in the previous species.

317. *Ptelea trifoliata* L. — Flop-Tree

Native of the eastern parts of North America; a 3–6 m high, sparsely branched shrub, or a small tree

with a roundish crown, and often with several trunks. The trifoliolate leaves emit an aromatic odour. The fragrant flowers open in June in panicles of 6–8 cm in diameter. Its winged fruit remains on the tree long after the fall of the leaves. It should be planted in loose, not too wet soil. Thermophilous and needs much light, though tolerant to shade. Frequently planted in parks and gardens owing to its decorative fruit.

**318. *Poncirus trifoliata* (L.) Raf. —
Trifoliolate-Orange
(*Citrus t.* L.)**

A 1–3 m high deciduous or semi-evergreen shrub in North China and Korea. On the dark green flattish branches and shoots strong spines are seen. Leaves trifoliolate. Flowers fragrant and white coming out at the time of leafing in April–May on the side of the branchlets. Fruit aromatic but bitterish, becoming ripe only in long autumns. A sheltered, sunny place with moderately dry soil rich in nutrients should be chosen for it. A thermophilous plant, in severe winters may die back to the base. It is a rare but very peculiar shrub of high ornamental value.



Plate 72

Meliaceae — Mahogany Family

319. *Cedrela sinensis* Juss.
(*Toona s.* Roem.)

This native of China is a 10–15 m high deciduous tree. Leaves almost identical with those of *Ailanthus* but the leaflets are entire and not dentate

near the base. The 40–60 cm long pinnate leaves are composed of 10–24 leaflets. Small, fragrant flowers forming pendulous racemes open in June–July. Capsules obovoid, becoming ripe in September. It requires a sunny, warm place with good soil.

Simaroubaceae — Quassia Family

320. *Ailanthus altissima* (Mill.) Swingle
'*Erythrocarpa*' —
Tree of Heaven

A tree of 20–25 m, native of North-eastern China and Korea, developing a broad, later umbellate crown. Thick branches green when young, turning light brown in time. Its large pinnate leaves sometimes attain a length of 1 m. Leaves when crushed emit an unpleasant smell. The number of leaflets is 15–31, at lower third on both sides some

broad, glandular denticles are present. Dioecious flowers in large, repeatedly branching panicles open in June–July. The staminate flowers emit an unpleasant smell. Twisted samaras red when unripe. It thrives well almost anywhere except in cold, wet soils. Photo- and thermophilous, drought-resistant. It develops well even in smoky air. Owing to its very moderate requirements and rapid growth it is frequently planted, but spreads also by itself with seeds and offsets and is therefore regarded by some as a weed-tree.

Euphorbiaceae — Spurge Family

321. *Securinega suffruticosa* (Pall.) Rehd.

It is a 1.5–2 m high deciduous shrub of the Far East, with arcuately bending, thin branches. The insignificant flowers open in July–August, the fruit ripens in September–October. It thrives well even in dry, sandy soil poor in nutrients, a photo- and thermophilous plant with no ornamental value, only interesting as a woody plant belonging to the family of Euphorbiaceae.

322. *Andrachne colchica* Fisch. et Mey.

Native of Asia Minor; a thick, deciduous shrub of 60–80 cm with thin branches. The insignificant flowers come out in July–August. The fruit is greenish at the beginning later becoming light brown, rounded, somewhat flattened, 5 mm in diameter, becoming ripe in September–October. Requirements and value the same as those of the previous species.



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Plate 73

Buxaceae — Boxwood Family

323. *Sarcococca humilis* Stapf

Native of China, a hardly 40–50 cm high evergreen shrub with spreading base. Leaves leathery, glabrous and dark green reaching a length of 3–5 cm. Flowers fragrant, often blooming already at the end of winter. Fruit fleshy, spherical and black. It should be planted in half-shaded or shaded places with humid microclimate in humous, fresh soil. Best planted together with and sheltered by evergreens.

324. *Pachysandra terminalis* Sieb. et Zucc. — Japanese Pachysandra

It is a 10–20 cm high evergreen plant spreading from a the base; Leaves sitting at the apexes of stems; there is also a form with variegated leaves (*P.t.* '*Variegata*'). Its one-sexed flowers are grouped into a short raceme with female flowers at the base. Fruit whitish, ovoid, three-horned, a fleshy capsule. It should be planted in fresh humous soil in half-shade or shade. A valuable covering shrub which in a suitable place spreads rapidly.

325. *Buxus sempervirens* L. — Common Box

Native of North Africa, South Europe and West Asia, a densely branched, evergreen shrub, oc-

asionally growing into a 10–12 m tree. Shoots somewhat pubescent. Its small, fragrant flowers open in April–May. The capsule contains black seeds. It requires a fresh, humous soil, but owing to its high adaptation thrives well in moderately dry and poor soil too. Tolerant to shade, polluted air and cold. Mostly used as a hedge plant.

326. *Buxus sempervirens* L. '*Marginata*'

A shrub with upright branches and vigorous growth. Its dark green leaves are bordered by a yellow tripe.

327. *Buxus sempervirens* L. '*Aureovariegata*'

It differs from the typic form by its yellow mottled leaves, though some of the young leaves are entirely yellow.

328. *Buxus microphylla* Sieb. et Zucc. var. *sinica* Rehd. et Wils.

A 1–1.5 m high evergreen shrub, native of China and Japan. Leaves 1–3 cm long, widest above the middle. Flowers come out in May. A hardy variety, withstanding even cold winters.

Empetraceae — Crowberry Family

329. *Empetrum nigrum* L. — Crowberry

A circumpolar species, native of the norther parts of Eurasia and North America, 15–25 cm high, evergreen shrub. Stem glandular. The insignificant

reddish flowers open in April–May. Fruit black and juicy, becoming ripe in August–September. It requires a moist, humous soil free of lime, a humid microclimate in a shaded or half-shaded place. Under conditions meeting its demands the ground is soon covered by its thick carpet.



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Plate 74

Coriariaceae — Coriaria Family

330. *Coriaria myrtifolia* L. — Redoul

A 2–3 m high, wide, deciduous shrub in the Mediterranean countries; north of this region it remains smaller, since in colder winters dies back.

Leaves earlier used to extract tanning material from. The five-merous flowers open in May–June. Fruit berry-like, poisonous when in the stomach. It should be planted in a sheltered, warm place with water-permeable soil.

Anacardiaceae—Cashew Family

331. *Rhus hirta* (L.) Sudworth — Staghorn Sumac (*R. typhina* L.)

3–5 m high, sparsely branched deciduous tree sometimes with several trunks, or a shrub in the eastern parts of North America. In its native country it may attain a height of 8–10 m. Thick branchlets densely covered by long velvety hairs of brown colour. Leaves 30–50 cm long composed of some 11–31 leaflets. A dioecious species. The bright yellow staminate flowers in looser, the reddish pistillate ones in full terminal panicles, both covered by thick hair, open in June–July. The fruit, a drupe of dark reddish colour, conical in shape

forms a densely hairy fruit-cluster. Requires light and warm temperature and a water-permeable moderately dry soil. When injured, the plant produces masses of tillers. In autumn the leaves display all shades of yellow and scarlet-red, and red-haired fruit-clusters embellish the branches throughout the winter.

332. *Rhus glabra* L. 'Laciniata' — Lanceolated Smooth Sumac

Its general habit and characteristics are similar to those of the previous species though the branchlets are glabrous, and the leaflets oblong-lanceolate.

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Plate 75

**333. *Cotinus coggygria* Scop. —
Smoke-Tree, Wig-Tree**

Native from South Europe to East China. The northern boundary of its geographical distribution is the Northern Mountains in Hungary and frequent on the dry south-facing hill-sides and karst scrub forests of South Transdanubia. It is a 3–4 m high, deciduous shrub whose prostrate branches push out roots, so it spreads also laterally. Branchlets, when broken, emit an aromatic smell. Its long-petioled leaves are dark green above and bluish green, usually glabrous beneath. The dioecious or polygamous flowers clustered in large, terminal panicles open in June. Most flowers are sterile much lengthened and plumose of a purplish or yellowish colour. The fruit is a brown drupe. The autumn foliage is wonderful, the leaves display a wide range of colour from orange-yellow to

crimson-red. It requires much light, warm temperature, and a sunny place, a plant for stony, barren hill-sides facing south, with lime or dolomite as base-rock. Extremely resistant to drought.

334. *Cotinus coggygria* Scop. 'Purpurea'

Habit and requirements similar to those of the nominate species', but the fruit-clusters are covered with carmine pubescence.

**335. *Cotinus coggygria* Scop.
'Rubrifolia'**

A darkred-leaved variety of the smoke-tree; from budding till the fall of the leaf it offers a lovely sight. The plume-like, hairy fruiting clusters are red.



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Plate 76

**336. *Rhus aromatica* Ait. —
Fragrant Sumac**

A native of the eastern parts of the United States and Canada; a 1 m high deciduous shrub with prostrate, then rising branches. All of its parts when crushed or broken give off a very pleasant aromatic smell. Branchlets and the trifoliate leaves are pubescent. The flowers are greenish yellow blooming in April. The pea-sized, red, finely pubescent fruit becomes ripe in August, remaining on the branches for a long time. It requires much light, warm temperature, is moderately drought-resistant. A shrub planted for the beautiful colour of autumn foliage and the decorative fruit.

337. *Rhus toxicodendron* L. — Poison-Oak

A scarcely half metre high deciduous shrub in North America. With its tillers runs far but cannot climb a support. Its trifoliate leaves turn yellow, purplish red or scarlet. Insignificant flowers in loose panicles open in June–July. Fruit also insignificant becoming ripe in October. The entire plant is strongly poisonous, even a light touch may cause a rash. It should be planted in sunny or half-shaded places; tolerant to drought.

**338. *Rhus verniciflua* Stokes —
Varnish-Tree**

Native of the Far East; a 15–20 m high, sparsely branched, deciduous tree. The leaves are long composed of 7–13 entire leaflets with margins. Yellowish white, small flowers clustered into loose, pendulous panicles open in June. Fruit ripens in September–October. A thermophilous plant requiring much light, and water-permeable soil rich in nutrients. Moderately drought-resistant. Similarly to the previous species it is a very poisonous plant too. The basic material of the varnish on Far-Eastern ornaments is supplied by this plant.

**339. *Rhus chinensis* Mill. —
Chinese Sumac**

A big shrub or a 6–8 m tall tree from the Far East. Its large leaves are composed of 7–13 leaflets. Both the rachis and the petiole are winged. Inflorescence comes out at the end of summer, in August–September, while its heavily pubescent red fruit becomes ripe at the end of October. The autumn colour of the foliage is a flaming red. Requirements similar to those of the previous species.

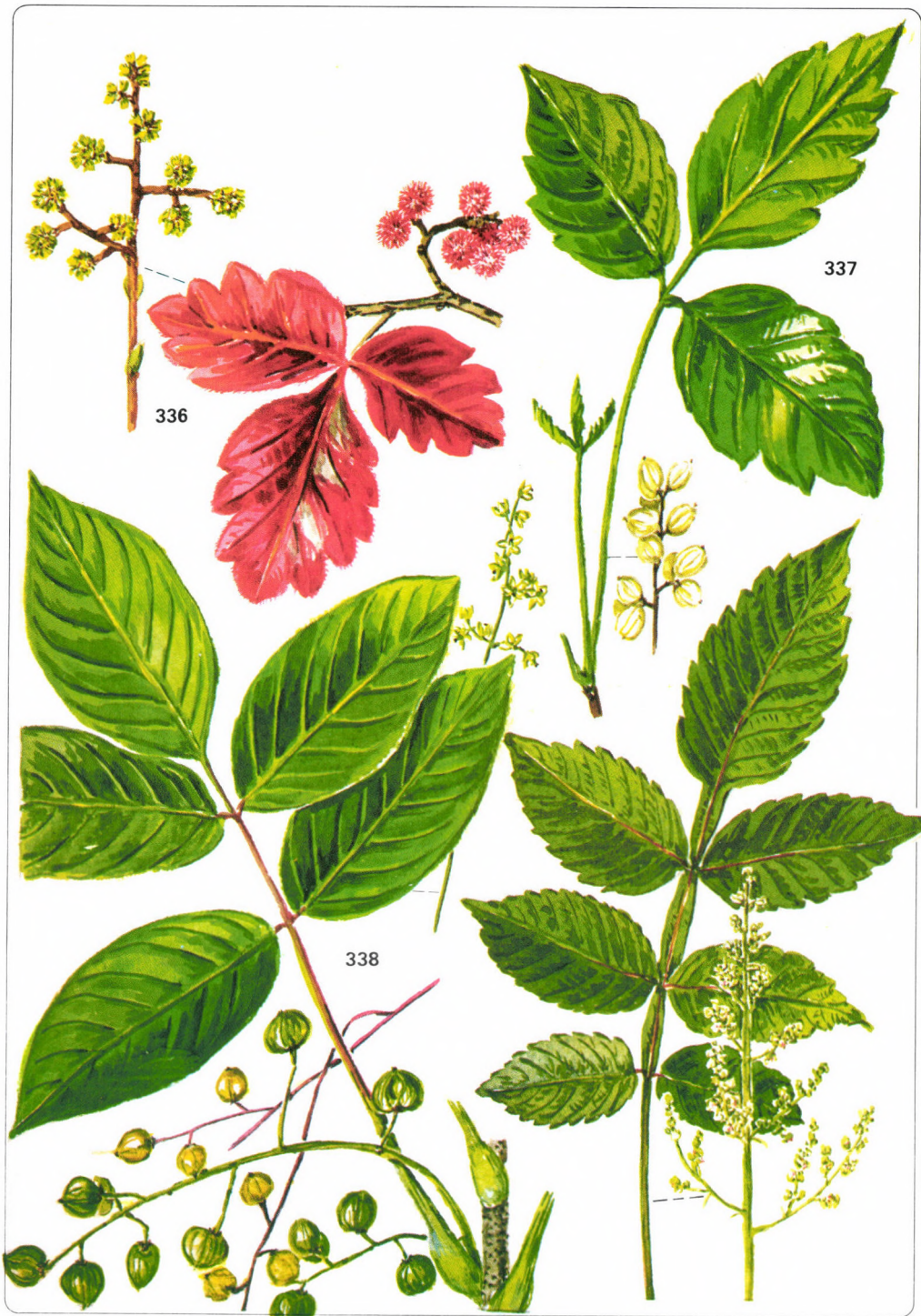


Plate 77

Aquifoliaceae — Holly Family

340. *Ilex aquifolium* L. — Common (English) Holly

Its native land extends from West and South Europe and North Africa through West Asia to China, where it is a 10–15 m high tree. Under cooler or drier climates it develops into a bush branched from the base, and only occasionally into a smaller tree. Its evergreen leaves are thick and leathery, margin wavy with large, triangular, spiny teeth. Flowers are fragrant, white and one-sexed opening in May–June. The bright red fruit of pea-size assumes colour in September and remains on the branches throughout the winter. It requires a fresh, somewhat compact soil in nutrients, a humid climate and a half-shaded or shaded spot. It is of slow development. One of the most beautiful evergreen shrubs, whose leaves and fruit are equally decorative.

341. *Ilex aquifolium* L. 'Ferox'

Habit and requirements are similar to those of the previous species, but the margin and upper surface of leaves are densely and irregularly prickly.

342. *Ilex aquifolium* L. 'Angustifolia'

It is a slender, pyramidal shrub with smaller leaves than those of the original species. The margin of the leaves is not crisped. It develops slowly.

343. *Ilex pernyi* Franch.

It is a larger, very upright shrub; in Central and West China, its native land, a small tree. Leaves 1.5–3 cm long. Flowers pale yellow, appearing on the side of the branchlets of the previous year in thick clusters in May. The red fruit becomes ripe in August and remains long on the branches. Requirements similar to those of the previous species. A valuable, scarcely encountered shrub.

Celastraceae — Staff-Tree Family

344. *Euonymus latifolius* Scop.

Native of South Europe and Asia Minor, developing into a 3–5 m tall, wide deciduous shrub. Branchlets and branches are cylindrical, buds long, pointed. Insignificant flowers come out in May–June. Bright red fruit comprising an orange aril and white seed. It should be planted into a better quality not too dry soil at a sunny, or half-shaded spot. A frequent ornamental shrub very decorative with its strikingly large fruit and beautifully coloured autumn foliage.

345. *Euonymus nanus* Bieb.

A shrub of 50–80 cm living from Eastern Europe to West China. Branches prostrate then erect, partly rooting; shoots angular in cross-section. Its linear leaves turn brownish red in autumn and—particularly in var. *turkestanicus*—are evergreen or partly semi-evergreen. Its insignificant flowers come out in May–June. The pink fruit is ripe in August–September. It requires a fresh, humous soil, a humid climate and a half-shaded place.

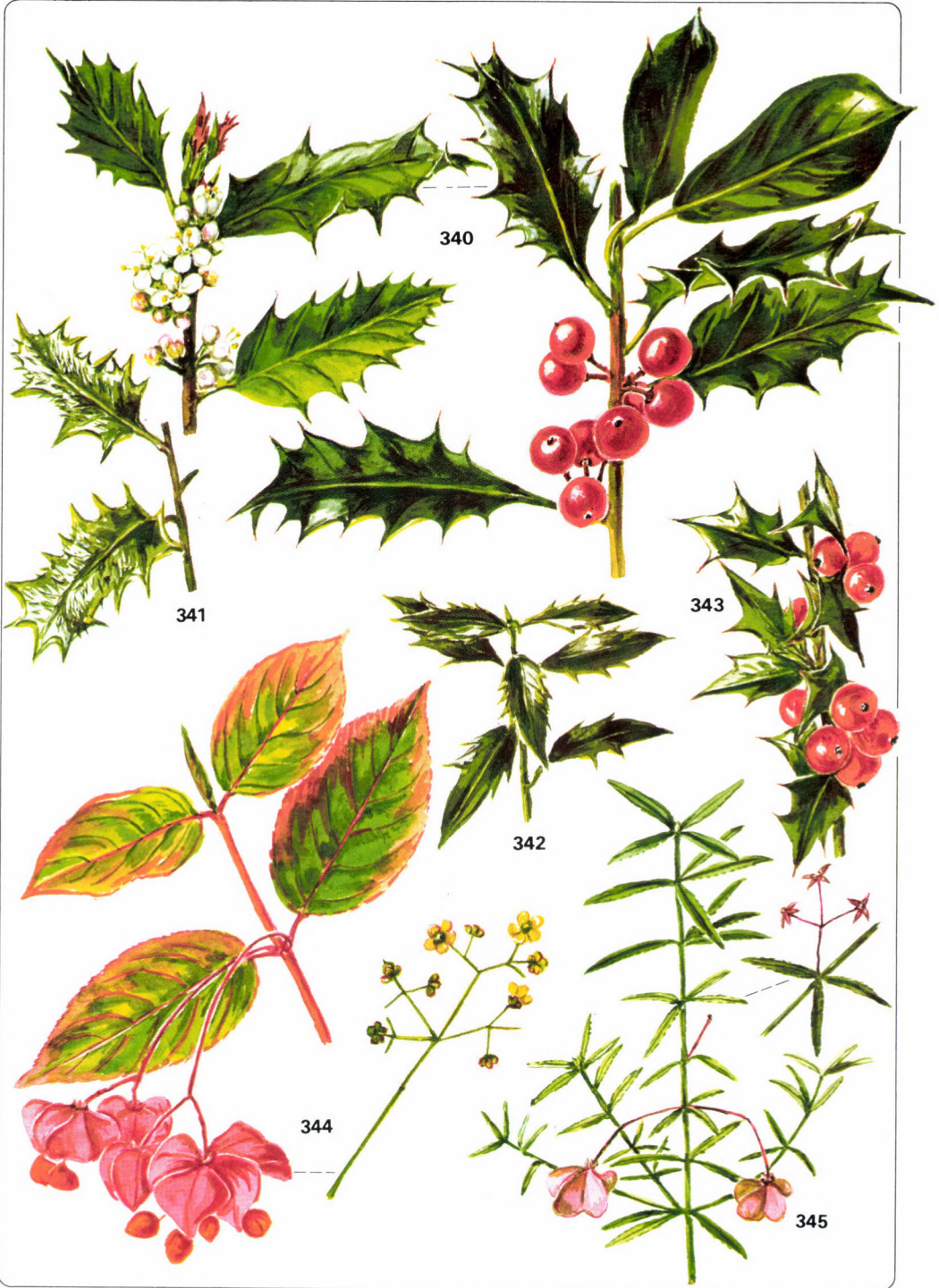


Plate 78

**346. *Euonymus alatus* (Thunb.) Sieb. —
Winged Spindle-Tree**

It is a native in North-eastern Asia and Central China, a densely branched, deciduous shrub reaching a height of 1.5–3 m, with branches usually bearing 4 corky wings. The leaves turn reddish in autumn. The fruit becomes ripe in October. It requires a sunny place with a good garden soil; moderately drought-resistant. Frequently planted in gardens for its beautiful autumn foliage, decorative fruit, and corky branches particularly attractive when leafless.

**347. *Euonymus fortunei* (Turcz.) Hand.-Mazz.
'Vegetus'**

An evergreen shrub from Japan, usually of the shape of a bush and 1–1.5 m in height, but climbing even 6–8 m high by the help of its aerial roots when finding suitable support. Leaves elliptic or oval. It brings a profusion of flowers and a great quantity of fruit. For best growth it requires fresh, somewhat compact soil rich in nutrients, and half-shaded or shaded places.

**348. *Euonymus fortunei* (Turcz.) Hand.-Mazz.
'Gracilis'**

An evergreen shrub creeping on the ground or climbing with aerial roots 2–3 m high. Leaves yellow or white-mottled, very decorative. Suitable to cover the ground, but can be trained on trees, or walks or large stones. Frequently planted in rock-gardens.

**349. *Celastrus scandens* L. — Waxwork,
Staff-Tree, False (American) Bitter-Sweet**

Native of North America, a twining deciduous climber of 6–7 m. The leaves are yellow in autumn. The pale, yellowish green, small, dioecious flowers grouped in terminal panicles open in June. Fruit is a dark yellow, thin-walled capsule of the size of a pea, dehiscent into three valves, containing seeds enveloped in a fleshy, red aril. In normal soil with plenty of sunshine it develops rapidly. When climbing up a living tree it may "strangle" its support by its weight and dense foliage. The beautiful fruit remains on it from October till December. Most suitably trained on lattice-work, pergolas or dead trees.



Plate 79

Staphyleaceae — Bladdernut Family

350. *Staphylea trifolia* L. — Bladdernut

An upright, deciduous shrub of 3–5 m in the eastern parts of North America. Its white, 8 mm long flowers clustered in short 3–5 cm panicles or

pendulous racemes open in May. Fruit inflated, capsulate enclosing 5 mm long, yellowish seeds becoming ripe in September. It requires a fresh soil rich in nutrients, and a place in the sun or in half-shade. Flowers and fruit are both decorative.

Aceraceae — Maple Family

351. *Acer platanoides* L. — Norway Maple

Native of Europe and the Caucasus. A 20–30 m high, deciduous tree with a spherical or somewhat elongate crown. Its five-lobed leaves turn yellow in autumn. Yellowish green flowers enclosed in perules are clustered in corymbs opening in April, before budding. The flattened nutlet becomes ripe in September–October. It requires a fresh soil rich in nutrients. A heliophyte, moderately drought-resistant plant. Particularly attractive at the time of flowering, and in autumn when the foliage becomes colourful; frequently planted in towns along streets.

352. *Acer platanoides* L. 'Schwedleri'

Leaves when budding are blood-red, later turn green except the petiole and the veins. In spring its foliage is a lovely dash of colour.

353. *Acer platanoides* L. 'Drummondii'

The leaf has a broad yellowish white or white margin. The young shoot apexes are of a pinkish shade.



Plate 80

354. *Acer platanoides* L. 'Palmatifidum'

The leaves are deeply lobed to the midrib. A tree of vigorous growth.

355. *Acer truncatum* Bge.

Native of North China; a 5–8 m high, deciduous tree with thin branches and a roundish crown. Leaves deeply lobed and truncate at the base. Its greenish yellow flowers grouped in corymbs of 6–8 cm in diameter open in May. Its flattened velutinous nutlets become ripe in October. It is a small tree of beautiful shape, with leaves turning red in autumn. It requires a good soil, a sunny or half-shaded spot. Encountered mainly in dendrological collections.

356. *Acer campestre* L. — Hedge Maple, Field Maple

It is a native of Europe and Asia Minor, occasionally reaching 10–15 m but mostly a tall shrub or small tree only. The thinner branches and branchlets frequently bear corky ribs. The leaves are 3–5-lobed turning golden yellow in autumn. Flowers yellowish green opening simultaneously with budding in April–May. The flattened nutlets are furnished

with wings spread almost horizontally. A photophilous and thermophilous plant, but thrives well in half-shaded places, too; tolerant to polluted air and drought-resistant. It is of comparatively slow growth. Stands pruning well, and is therefore easily developed into a high hedge. Owing to its modest requirements and versatile utility it is frequently planted.

357. *Acer monspessulanum* L. — Montpellier Maple

It is a native in South Europe and West Asia; a shrub or a 6–10 m high tree with a roundish crown. The flowers open in April–May. It grows slowly, requires much light and warm temperature. Drought-resistant.

358. *Acer spicatum* Lam. — Mountain Maple

It is a native of the eastern parts of North America, of the habit of a shrub, though in its native country may develop into a smaller tree. The leaves are 3- or sometimes 5-lobed turning orange or red in autumn. The greenish flowers grouped in upright spikes open in May–June. The unripe fruit is mostly reddish. It requires fresh soil and humid climate.

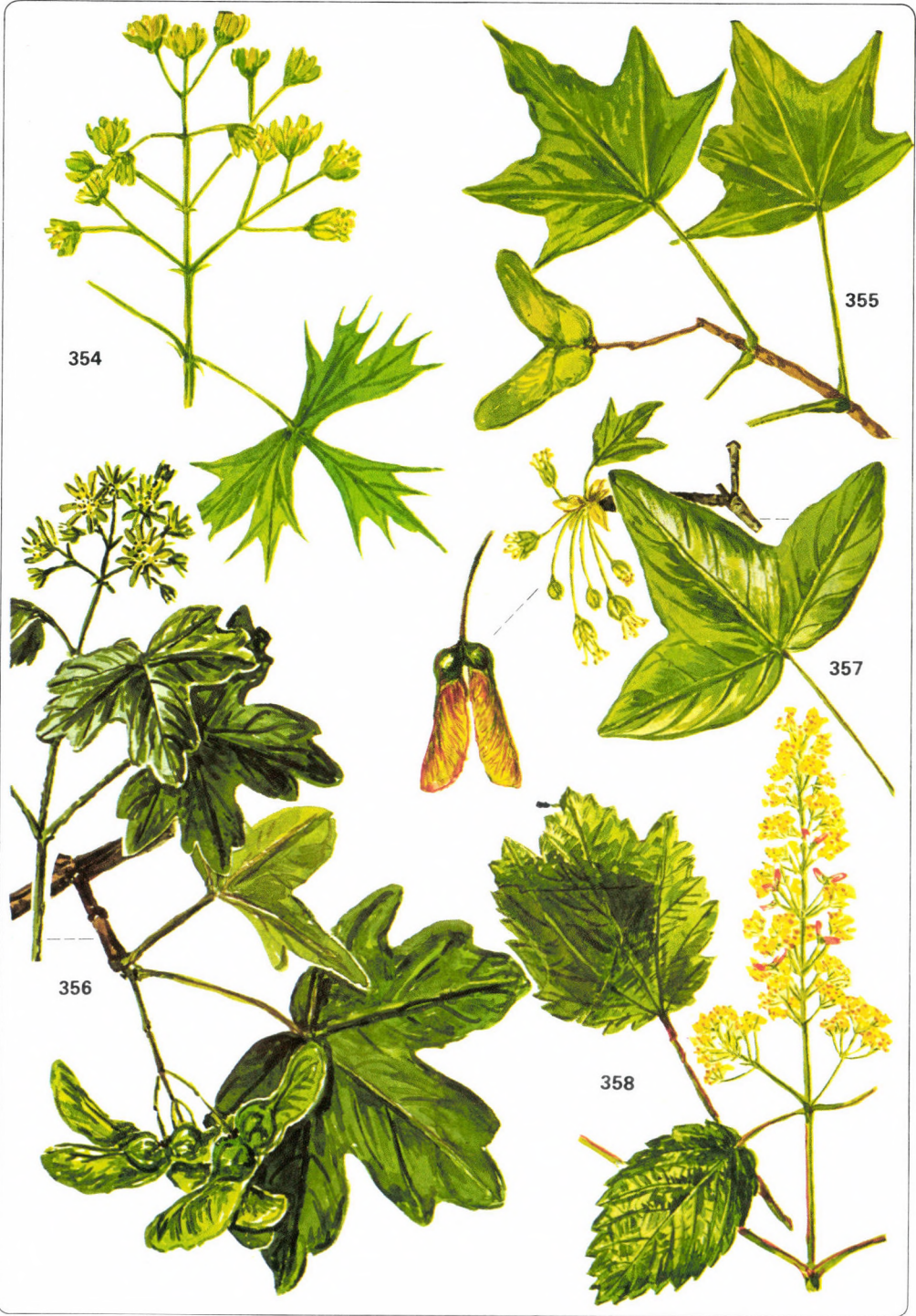


Plate 81

359. *Acer pseudoplatanus* L. — Sycamore Maple

Its native land extends from Central Europe to the Caucasus. A large deciduous tree of 25–30 m with a big crown. The bark of older trees flakes off in large patches. Yellowish green flowers open after budding in April–May. Fruit bulging, becoming ripe in September. It develops well in deep-layered, fresh soil rich in nutrients, a tree of mountainous and hilly regions with a humid climate. When young moderately tolerant to shade, but later needs much light. Owing to its rapid growth, beautiful yellow autumn foliage and shapely crown it is frequently planted in gardens and parks. Less tolerant, however, to urban environment than *Acer platanoides*. Its foliage turns brown in dry, warm, smoky air and falls prematurely. In that case its beautiful autumnal colour is never seen.

360. *Acer pseudoplatanus* L. 'Atropurpureum'

Habit and requirements similar to those of the original species, but the lower surface of the leaf is dark red. It is a beautiful variety with a coloured foliage.

361. *Acer ginnala* Maxim. — Amur Maple

A large shrub, or a small tree of 6–7 m with loosely arranged branches from the Far East. Shoots and branchlets thin, leaves three-lobed, rather roughly, doubly serrate. Its fragrant flowers come out after budding at the end of May. The unripe fruit is red. It thrives even on dry, poor soil, in sunny or half-shaded places. A plant of slow growth, with a wonderful autumnal foliage. Suitable for clipped hedge too.

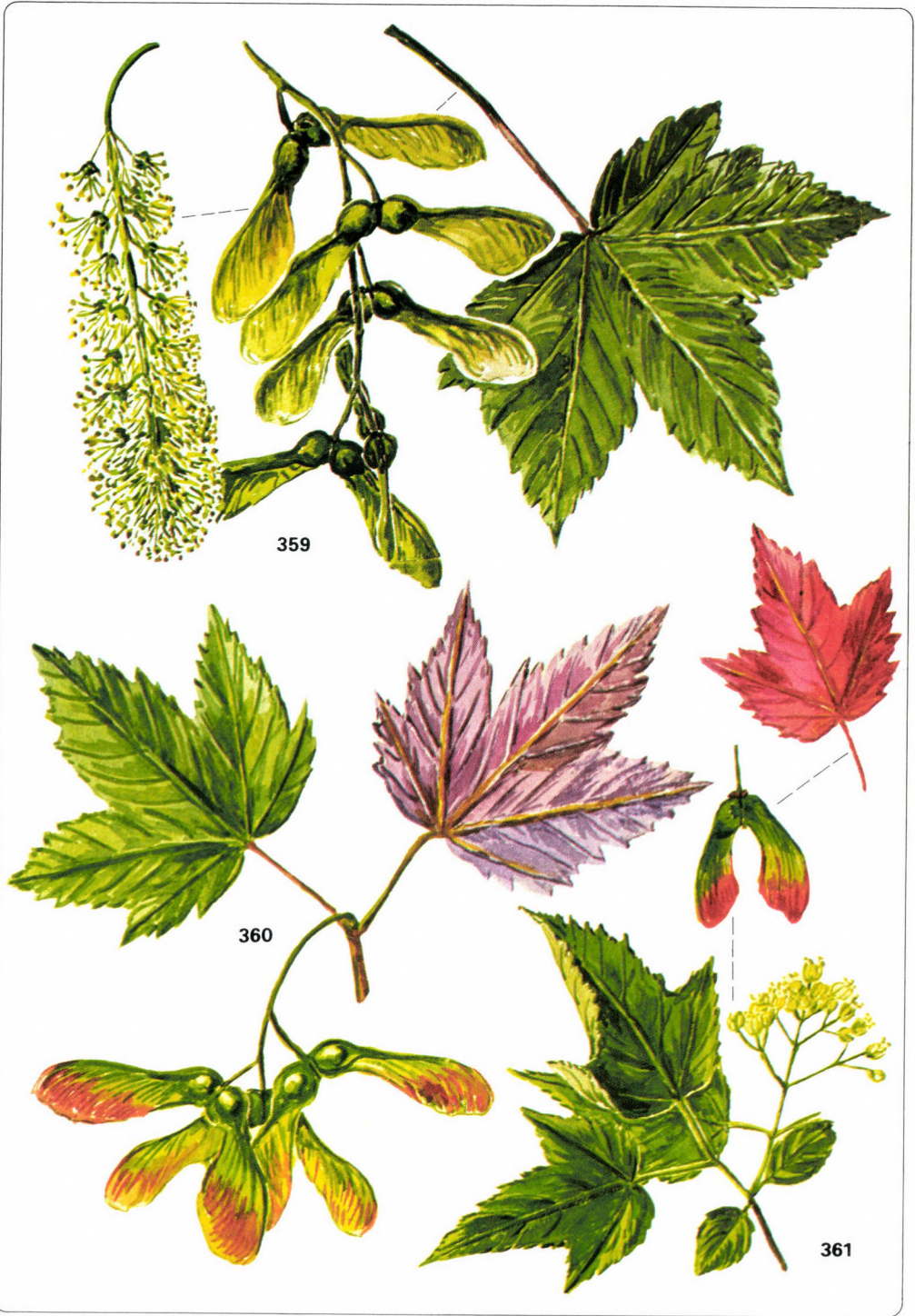


Plate 82

362. *Acer tataricum* L. — Tatarian Maple

Native of South-east Europe and Asia Minor; a deciduous shrub or small tree. Leaves are entire or slightly three-lobed. Flowers andromonoecious, white, coming out in May–June. Fruit when unripe is red. A tree with low requirements, since it thrives in sun and half shade in poor or dry soil alike. Its autumnal foliage is red.

363. *Acer pennsylvanicum* L. — Moosewood

A high shrub or a small tree of 6–10 m with a wide crown in the western parts of North America. Its smooth, green branches are white striped lengthwise. The 12–18 cm long leaves turn yellow in autumn. The yellowish flowers come out in May. It requires a fresh or moist soil, and a half-shaded or shaded spot. Its main value lies in the striped, white jugged lines of the trunk and branches.

364. *Acer saccharinum* L. — Silver Maple, White Maple (*A. dasycarpum* Ehrh.)

A 20–30 m high, deciduous tree, with a wide loose crown in the eastern parts of North America.

Branchlets are reddish brown, leaves deeply five-lobed, light green above and silvery grey below. Its autumn foliage is yellow. Small dioecious flowers without petals, coming out before budding in March. Fruit on pendulous pedicels with divergent and falcate wings ripens in June. It requires a soil with good water supply and a sunny place. Growth extremely rapid. Owing to its shapely habit and accurate branches frequently planted in gardens and parks.

365. *Acer rubrum* L. — Red Maple, Scarlet Maple, Swamp Maple

Native of the eastern regions of North America, where it may attain a height of 40 m. In Europe it is much smaller. Branchlets bright red with tiny lenticels. Usually dioecious, only seldom monoecious dark red flowers open in clusters some two weeks before leaf-budding in March–April. The unripe fruit turns red already in March, but becomes ripe only in June. It requires a fresh or moist soil free of lime. Develops well both in sunny and half-shaded places. Under optimum conditions grows rapidly. An ornamental tree especially valuable for its early flowering, colourful fruit and autumn foliage.



Plate 83

366. *Acer cissifolium*
(Sieb. et Zucc.) K. Koch

Native of Japan; a small tree of 5–10 m with a round head, or a larger shrub. Leaves tripartite. Yellowish flowers open after leaf-budding in April, while the fruit becomes ripe in September. Leaves display many shades of yellow and red in autumn. It should be planted in fresh soil rich in nutrients at a sunny or half-shaded place.

**367. *Acer mandschuricum* Maxim. —
Manchurian Maple**

A deciduous shrub or a small tree of 5–8 m in North China and Korea. The greenish yellow, tiny flowers grouped in cymes open in May. Fruit comprises thick, reticulate nutlets with wings at right or obtuse angle to each other. The leaves become red in autumn. Requirements similar to those of *A. cissifolium*.

368. *Acer negundo* L. — Box-Elder

It is a 10–20 m high deciduous tree with a wide crown, living in moist soils along shores and inundation areas in the eastern parts of North

America. Its glabrous shoots are green, sometimes bluish pruinose. Leaves are pinnate with 3–5 rarely 7 or 9 leaflets. The tree dioecious, the one-sexed flowers come out before or simultaneously with the leaves in March–April, the staminate flowers are grouped in corymbs, while the pistillate ones clustered on pendulous racemes. Wings enclose an acute angle, seed becomes ripe in September and remains on the tree after the leaves have fallen. It requires much light and develops well in fresh soil. In dry places sheds its leaves already at the end of summer. Since the branches break easily, it should be protected from strong winds. Usually its coloured leaf varieties are planted.

369. *Acer negundo* L. 'Auratum'

Like the type species it grows rapidly. The leaves are golden yellow from the beginning. It is one of the most favoured yellow-leaved maple varieties.

370. *Acer negundo* L. 'Variegatum'

Development slower than in the type species. At the edges of leaflets a broad, white border is found, while some leaves are entirely white. Strong insolation may harm it.

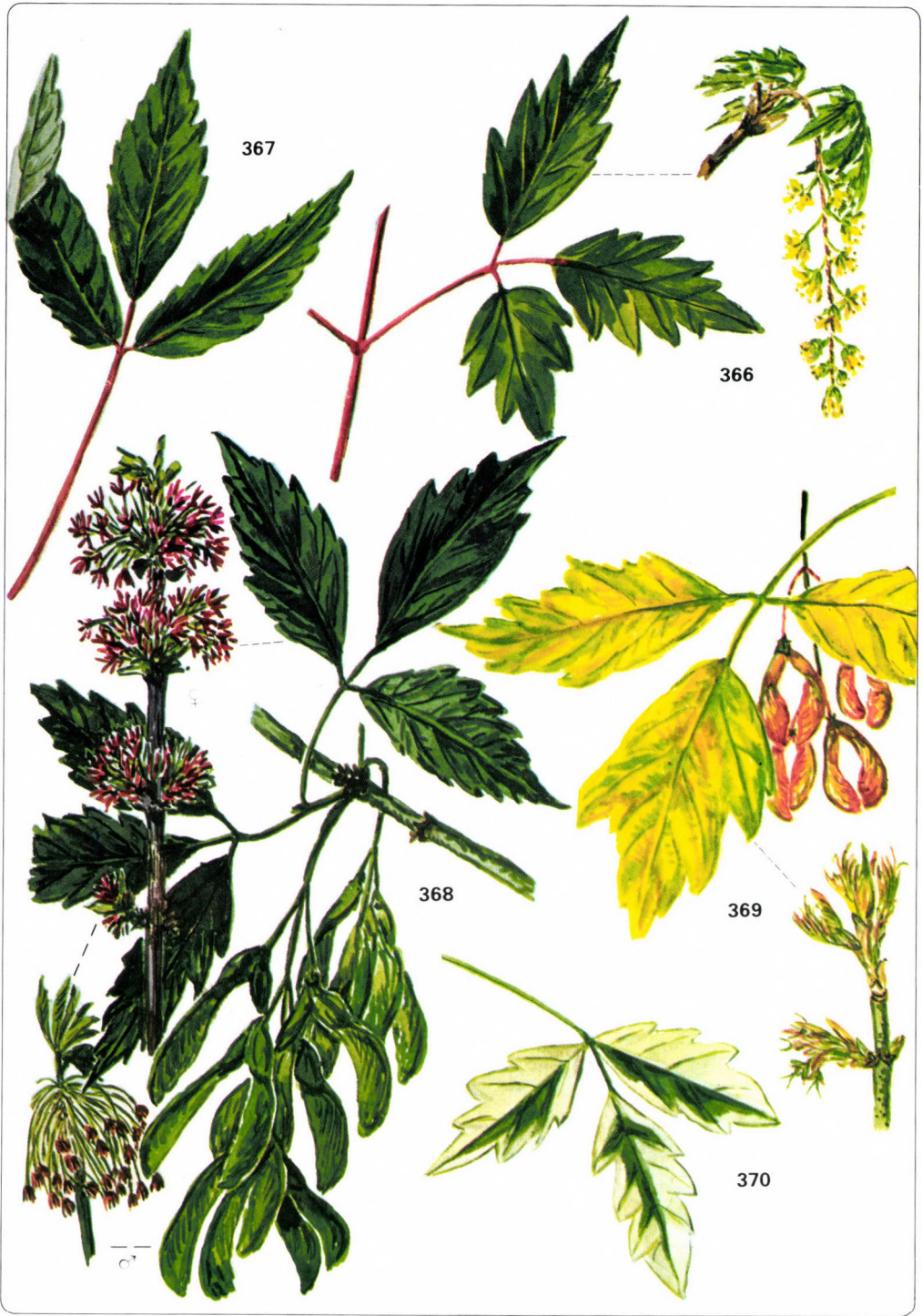


Plate 84

371. *Acer palmatum* Thunb. — Japanese Maple

It is a 3–4 m high shrub or small tree inhabiting Japan and Korea. The thin branchlets are usually red. Leaves 5–11-lobed turning bright red in autumn. The purple, tiny flowers come out in June. The unripe fruit, being also red, contributes to its ornamental value. It should be planted in fresh slightly acid soil rich in nutrients in half-shade. One of the most attractive Far-Eastern ornamental shrubs, with a host of varieties, of which the following two are the favourites.

372. *Acer palmatum* Thunb. 'Atropurpureum'

Its deeply lobed leaves are dark red from budding till defoliation.

373. *Acer palmatum* Thunb. 'Dissectum'

Leaves lobed to the base and each segment deeply serrate, narrowing towards the base. Sensitive to strong sunshine and dry soil.

374. *Acer sieboldianum* Miq.

It is a shrub or small tree originating from Japan. The young stems are hairy. The tiny, yellowish flowers clustered in pendulous corymbs open in May. The 1.5 cm long wings are at obtuse angle to each other. The shapely leaves turn red in autumn. Requirements the same as for *A. palmatum*.

375. *Acer mono* Maxim. — Painted Maple

A 10–20 m high tree with a round head in China and Korea. Leaves 5–7-lobed, lobes entire, ending in a long, sharp point. The greenish yellow flowers form a corymb of 4–6 cm in diameter, opening simultaneously with leaf budding in April–May. The leaves are golden yellow in autumn.

Sapindaceae — Soapberry Family

376. *Koelreuteria paniculata* Laxm. — China-Tree, Goldenrain-Tree

Native of the Far East, a 5–8 m high, deciduous tree with a big crown. Leaves are pinnate, composed of 7–15 leaflets. Flowers yellow and fragrant, terminal in position, opening in July–August. Fruit an in-

flated capsule with membraneous walls including 3 roundish black seeds. It requires a water-permeable, loose, warm soil in a sunny spot. When young somewhat frost-sensitive. Being tolerant to dry or polluted air it is an ideal plant for streets particularly for narrow ones, or under aerial wire, because of its moderate size.

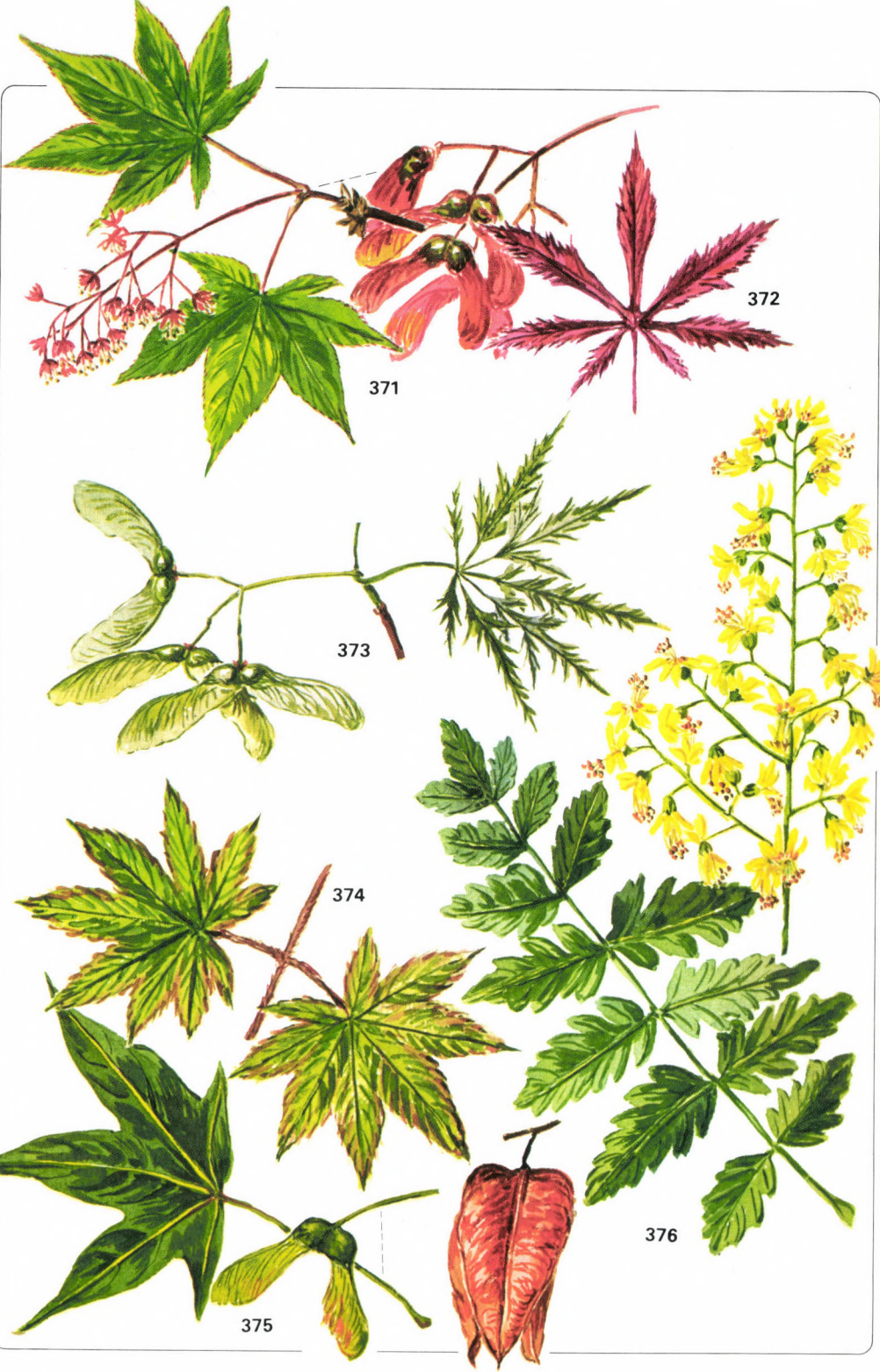


Plate 85

377. *Xanthoceras sorbifolium* Bge.

A 3–5 m high, deciduous shrub with spreading base, originating from North China, where it is a small tree. The leaves are 15–30 cm long, divided into 9–17 leaflets, each of a length of 3–5 cm with a sharply serrate margin. Five-merous flowers are grouped in terminal racemes opening in April–May.

The narrow petals are white with a greenish yellow base, later turning pale red. The fleshy capsule is tripartite, each with 1 cm large, spherical brown seeds. It requires a water-permeable, not too moist, calcareous soil rich in nutrients. A photo- and thermophilous plant frequent in gardens and parks owing to its beautiful flowers and finely shaped leaves remaining green until fall.

Hippocastanaceae — Horse-Chestnut Family

378. *Aesculus parviflora* Walt. — Bottlebrush Buckeye, Dwarf Horse-Chestnut

A 2–3 m high shrub with spreading base from the eastern part of North America. Leaves composed of 5–7 leaflets, each 10–20 cm long. Flowers 1 cm in

diameter, white, with long rosy stamina are clustered in a terminal inflorescence in July–August. Fruit 3–4 cm, a spherical or slightly elongate capsule. It requires a fresh humous soil in a sunny or half-shaded spot. Quite favoured in parks since every specimen covers a large surface, and when flowering makes the place colourful.

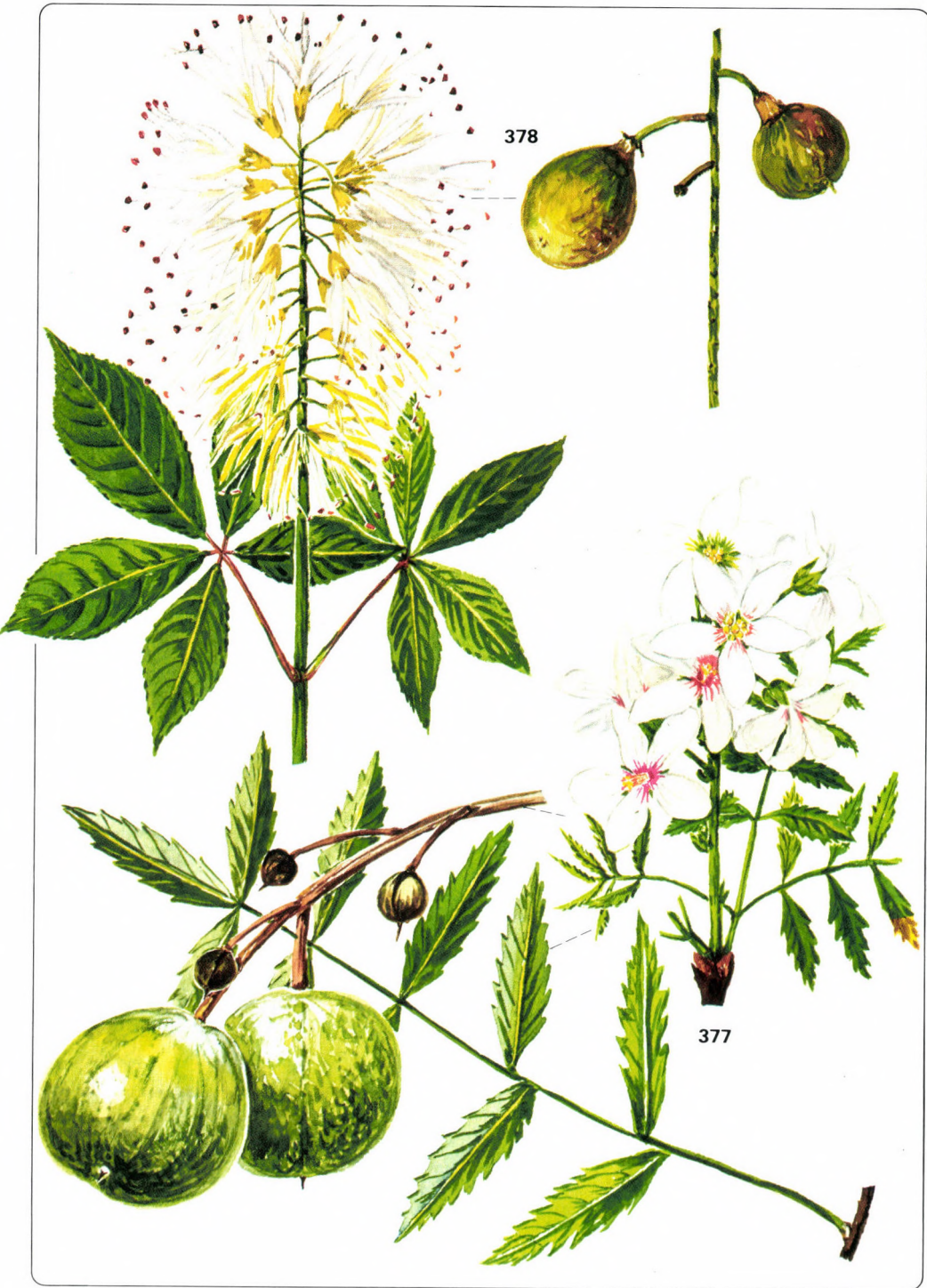


Plate 86

**379. *Aesculus hippocastanum* L. —
Common Horse-Chestnut**

A native of the Balkan Peninsula and Asia Minor. A deciduous tree of 20–25 m. Head ellipsoid, with bent lower branches. The glabrous brown buds are glutinous. Leaves palmate, leaflets broadest in the upper third. Flowers come out in May. Its 3-valved green capsule reveals when opening 1–2 large brown seeds. In fresh soil rich in nutrients grows rapidly. The microclimate should be humid, since in dry air the leaves turn brown and fall at the end of summer. While young its light requirement is less pronounced but later it is photophilous. Its shapely crown and large flowers are really impressive only when it is planted in a large open space. It has the disadvantage that other plants develop poorly, if at all, under its crown.

**380. *Aesculus hippocastanum* L.
'Laciniata'**

The leaflets are narrow, deeply, irregularly lobed, sometimes so much so as to be filiform. A tree of slow growth, with small crown, originating from France. It has been propagated since 1844.

**381. *Aesculus hippocastanum* L.
'Baumannii'**

The flowers are full, the flowering period lasts therefore longer than in the original species. Producing no fruit to drop it is more suitably planted along roads. It takes its origin from Geneva.



Plate 87

**382. *Aesculus* × *carnea* Hayne 'Briotii' —
Red Horse-Chestnut**

The original form is the hybrid of *Ae. hippocastanum* and *Ae. pavia*. The variety 'Briotii' has dark red flowers opening in the second half of May. Its spherical fruit is almost spineless. It is the most beautiful red-flowered Horse-chestnut.

**383. *Aesculus octandra* Marsh. —
Sweet Buckeye, Yellow Buckeye
(*Ae. lutea* Wangenh.)**

A 15–20 m high tree with a big, roundish crown in the eastern parts of North America. Its yellowish brown buds are not glutinous. Pale yellow flowers with 4 petals, grouped in an upstanding inflorescence open in May–June. The 5–6 cm spherical

capsule is spineless. The hilum is comparatively small. Owing to the peculiar colour of flowers and early autumn colouring of leaves is frequently planted as an ornamental tree. It requires fresh soil and humid microclimate.

384. *Aesculus pavia* L. — Red Buckeye

A large shrub or small tree in the eastern regions of the United States. The buds are not glutinous. Leaves are composed of 5 leaflets each of a length of 8–14 cm, broadest in the middle. The margin is irregularly, often doubly serrate. Its red flowers clustered in 10–15 cm loose panicles open in June. The petals are dissimilar in length and shape, and connivent; the 8 stamens reaching to the edge of the petals. Fruits spherical or obovoid. It requires moist soil and humid climate.

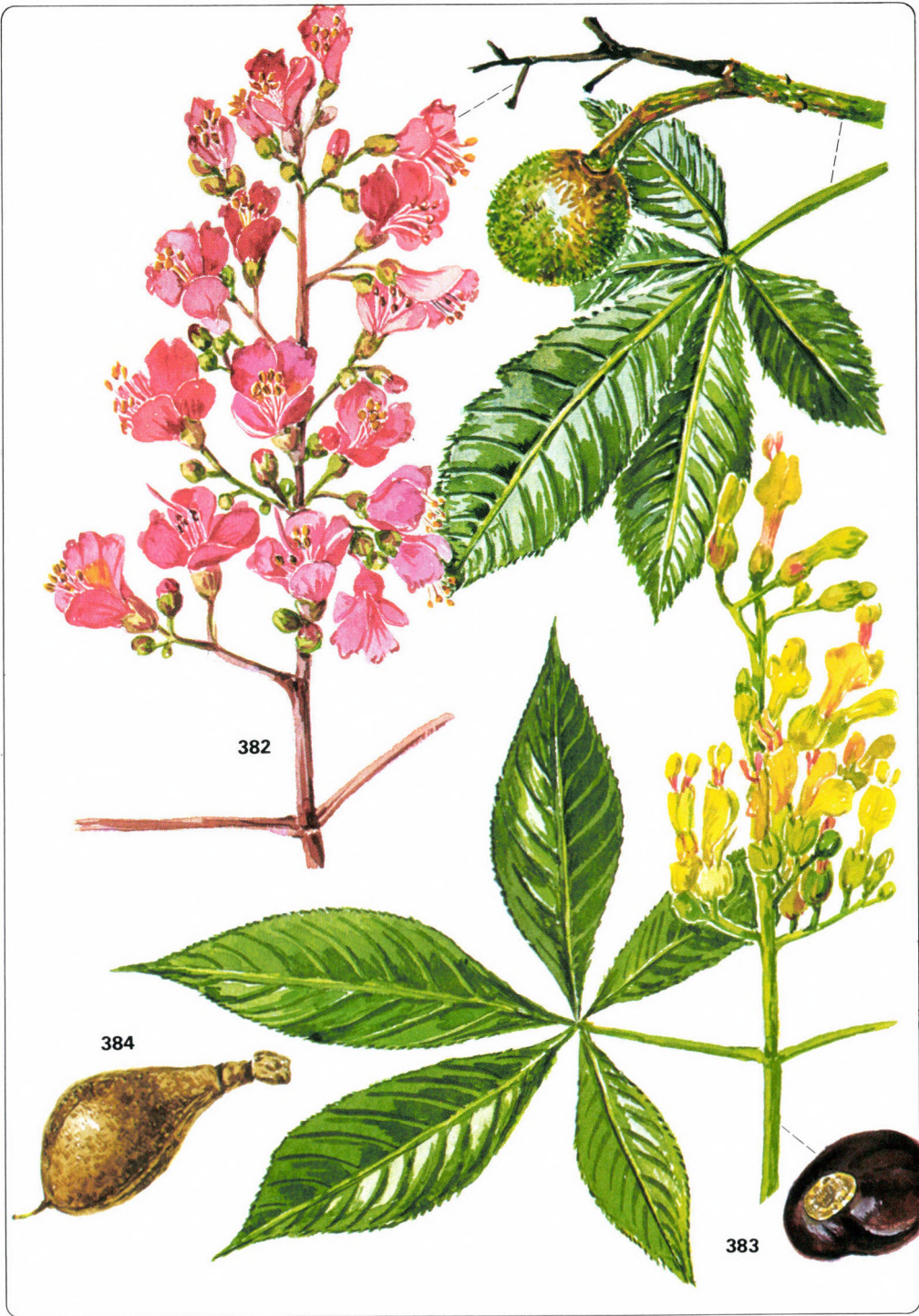


Plate 88

Rhamnaceae — Buckthorn Family

385. *Rhamnus imeretina* Kirchn.

A 2–3 m high, deciduous shrub with thick grey branches in the Caucasus and Asia Minor. Its elongate or elongate-elliptic, 10–25 cm long leaves are dark green and glabrous above, the margin finely serrate. The insignificant flowers grouped in green clusters open in June. The black fruit of the size of a pea is ripe in October. It requires a good soil and plenty of sunshine. With its large, glabrous, dark green leaves turning bronze-red in autumn it is one of the most beautiful *Rhamnus* species.

386. *Paliurus spina-christi* Mill. — Christ-Thorn

Its native land extends from South Europe to North China. A 2–3 m high shrub or a small tree of 4–5 m with stipular spines set in pairs on the young branches. Leaves entire or slightly serrate. Insignificant yellowish green flowers in umbellate cymes bloom in June–July. The winged fruit is 2–3 cm across becoming ripe in October–November. It requires a dry, calcareous soil, plenty of sunshine in a warm place. Under colder climate needs protection from frost. Its ornamental value is low.

387. *Zizyphus jujuba* Mill. — Common Jujube

A native of countries with warm climate from South Europe to East Asia where it is cultivated for its

edible fruit. A deciduous shrub or a small tree with bent branches ornamented with long straight and short curved spines. The tiny, yellow axillary flowers open in April–May. Fruit an oblong drupe whose flesh is red while unripe, turning black later. Requirements similar to those of the previous species.

388. *Ceanothus* × *delilianus* Spach

A hybrid of *C. americanus* and *C. coeruleus*, attaining a height of 1 m, with upright stems. Leaves pubescent or sometimes tomentose beneath. The thin-stalked pale or dark blue flowers in axillary or terminal panicles bloom from July till September. The roundish fleshy fruit later becomes dry, when ripe comes apart into 4 parts. It requires a sunny, warm, slightly dry place. Frost-sensitive. Many fine varieties are known, which are mostly planted for their late summer flowering.

389. *Hovenia dulcis* Thunb. — Japanese Raisin-Tree

A large shrub or a deciduous tree of 5–10 m, native in China and the Himalayas. Leaves 10–15 cm long, the insignificant greenish mellific flowers come out in June–August. The pea-sized fruit becomes ripe in September–October. It requires a good soil, a warm and sunny place. The name "raisin-tree" refers to the edible floral axis becoming fleshy by the time of fruit ripening.

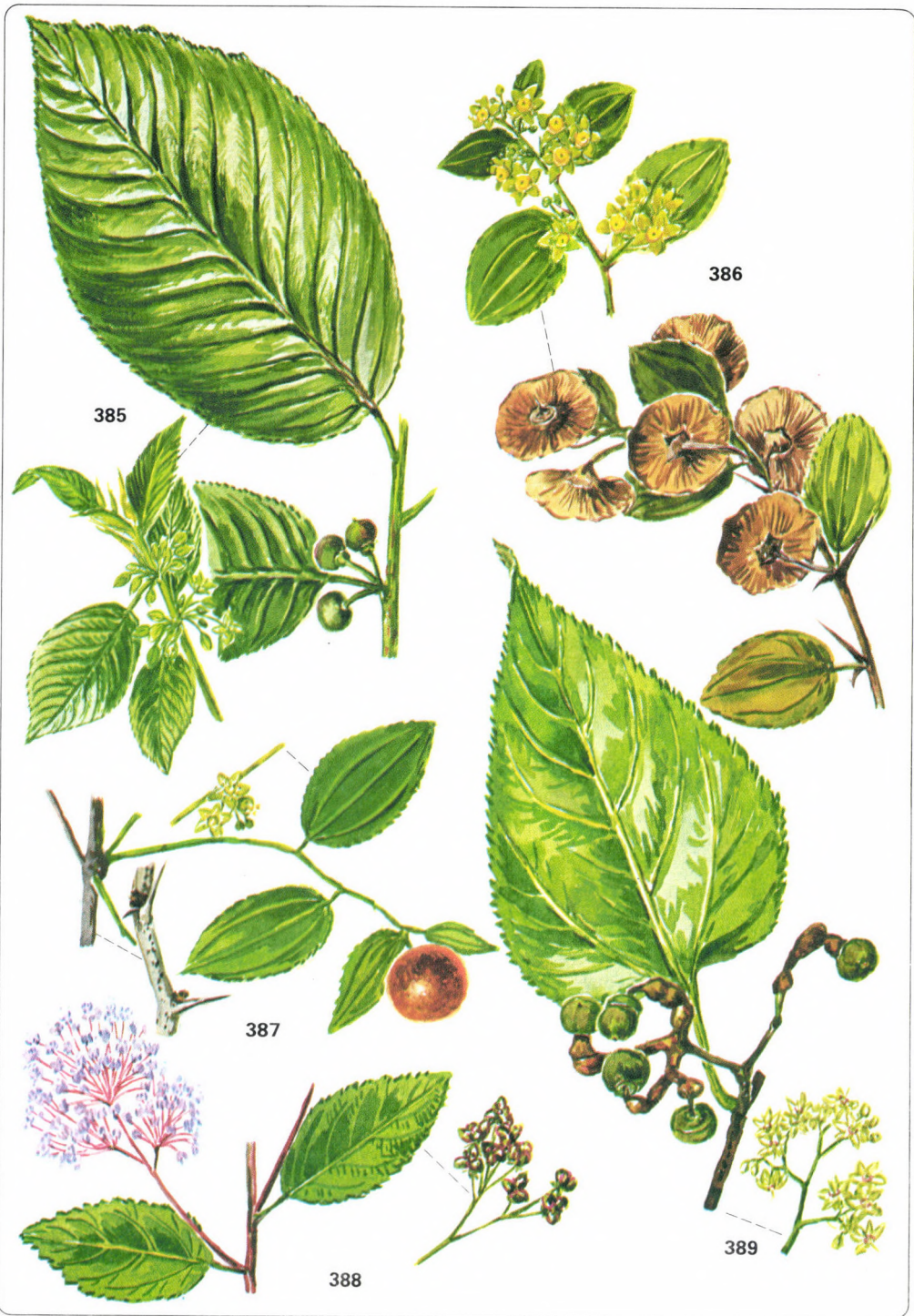


Plate 89

Vitaceae — Grape Family

390. *Vitis vinifera* L. 'Apiifolia' — Dissected Grape

A climbing shrub of rapid growth. The leaves are 3—5-lobed, the lobes are deeply divided.

391. *Parthenocissus pubescens* (Schlechtld.) Graebn. — (*P. quinquefolia* auct.)

It is a deciduous shrub in the eastern parts of North America climbing up to 10–15 m with the help of its tendrils ending in adhesive pads. Stems are red, cylindrical. Leaf composed of 5 long-stalked leaflets. The autumn colour of foliage is bright red. The insignificant flowers forming terminal panicles open in July–August. The pruinose, bluish black fruit becomes ripe in October. In a fresh soil rich in nutrients it grows rapidly. As an umbrophilous plant most suitable to cover walls facing north. Frequently encountered in gardens.

392. *Ampelopsis brevipedunculata* (Maxim.) Trautv.

This deciduous shrub, a native of North China and Japan, climbs up with its tendrils to 10–12 m high. The tiny, green flowers open in June–July. The fruit, first green, later blue, then purplish, ripens in September–October and remains for a while on the branches after the leaves have fallen. A shrub planted for its rapid growth and decorative fruit. It requires a good soil and a sunny place.

393. *Ampelopsis aconitifolia* Bge. var. *glabra* Diels

It is a climbing shrub from North China. The leaves are tripartite. The pea-sized fruit is first bluish, then yellow, orange yellow or brownish. Requirements similar to those of the previous species.

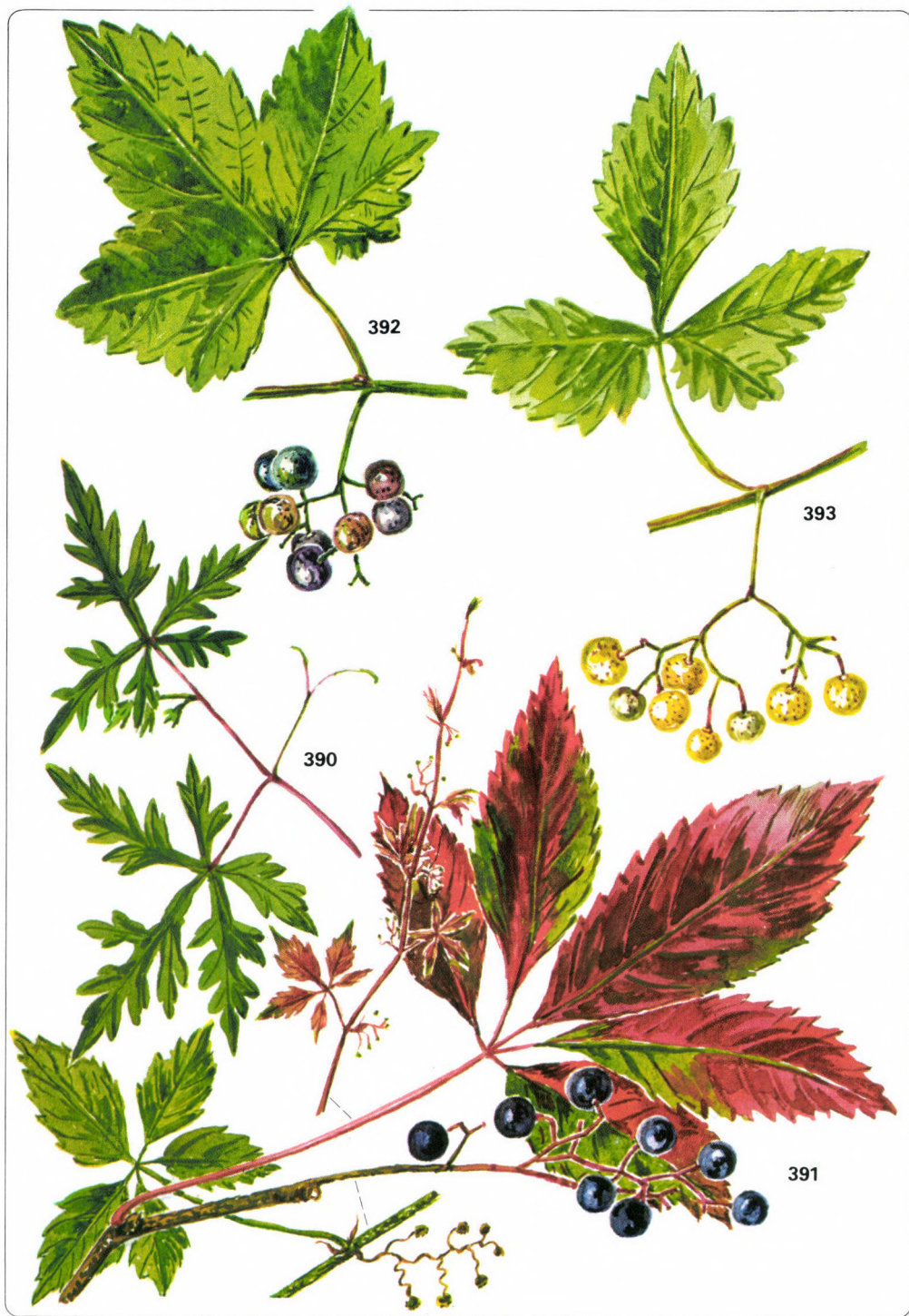


Plate 90

**394. *Parthenocissus inserta* (Kern.) Fritsch —
Virginia-Creeper**

Its native country is in the eastern part of North America. A deciduous shrub climbing 2–4 m high. The stems are flattened cylindrical, green. With no adhesive pads at the tips of tendrils it cannot climb walls without a support. Leaves composed of five leaflets, latter with a short or no petiole. The small, greenish flowers open in June–July, the fruit becomes ripe in August–September. It requires a sunny place with good soil. Autumn foliage bright red.

**395. *Parthenocissus tricuspidata* (Sieb.
et Zucc.) Planch. —
Boston-Ivy, Japanese-Ivy**

Native of East Asia; a deciduous shrub climbing up to 15–20 m with the help of tendrils ending in adhesive pads. The lower leaves of plants raised from seed are tripartite, but the rest simple. The leaves at the end of stems are entire, the others three-lobed. The somewhat fleshy leaf is glabrous green on both sides. The small, yellowish green flowers open in June–July. Fruit pruinose bluish black, of 6–8 mm in diameter, becoming ripe in September–October. It requires a fresh soil rich in nutrients in a warm, sunny place. The nicely cut leaves turn orange or scarlet. Usually trained on walls, it soon covers large surfaces.

Tiliaceae — Linden Family

**396. *Tilia argentea* Desf. —
Silver Linden, Lime, White Linden
(*T. tomentosa* Moench)**

Native of South-east Europe, a 20–30 m high tree with pyramidal crown. In Hungary—where it reaches the northern boundary of its geographical distribution—is found in the Nyírség (North-east Hungary) and South Transdanubia. Branches when young shoot straight upwards. The 5–10 cm large leaves are dark green above and densely tomentose and silvery grey below. Flowers clus-

tered in pendulous cymes open at the end of June and beginning of July. Because of the stellately pubescent peduncle the flower cannot be used for tea. Fruit ovoid, about 1 cm in diameter, a hard-walled capsule somewhat ribbed. It requires a deep-layered place, though develops well in drier and poor soils too. Needs much light and warm temperature, stands half-shaded places only when young. Polluted dry air does not much harm it, therefore suitable for planting streets and avenues with it. Very valuable as an ornamental tree too.



Plate 91

**397. *Tilia americana* L. —
American Linden, Lime**

A large tree of 30–40 m with a round crown in the central and eastern parts of North America. The stems are green and glabrous. Its broad ovoid leaves are 10–20 cm long, underneath with tufts of brown hair in the corners of the lateral veins. The 1.5 cm long, fragrant flowers open in the second half of July. Fruit thick-shelled, smooth and ellipsoid or subglobose. The flowers give plenty of honey; in its native country it is frequently planted along roads.

398. *Tilia platyphyllos* Scop. ‘Laciniata’

It is a 10–20 m high tree with a broad pyramidal head, and irregularly and deeply lobed leaves.

**399. *Tilia mongolica* Maxim. —
Mongolian Linden**

A 6–10 m high tree with a globose head native from North China to Mongolia. Stems brownish red and glabrous. The young leaves are 3–5-lobed and reddish, later turning glabrous green above, and bluish and glabrous below. Margins irregularly and coarsely serrate. The flowers open in July. The 6–8 mm, thick-walled, globose fruit is finely pubescent. It is of slow growth, with leaves much differing from all other linden species, rather resembling a smaller vine leaf.

Malvaceae — Mallow Family

400. *Hibiscus syriacus* L. ‘Monstrosus’

It is a deciduous shrub of 2–4 m with 5–10 cm large, three-lobed, coarsely serrate leaves. Its large funnel-shaped flowers are snow-white though the base of the petal is dark red. The flowers open from July till September.

401. *Hibiscus syriacus* L. ‘Admiral Dewey’

Its habit and leaves are similar to those of the previous species, but the snow-white flowers are

full. Flowering period begins in July. A beautiful garden plant of high ornamental value.

**402. *Hibiscus syriacus* L.
‘Purpureus Variegatus’ — Rose of Sharon**

It is a shrub of strong growth habit with leaves white mottled. Its purplish red flowers are very full, but scarcely open, so it is planted for its ornamental leaves. Like the other *Hibiscus* species it requires a fresh soil rich in nutrients in a warm and sunny place.

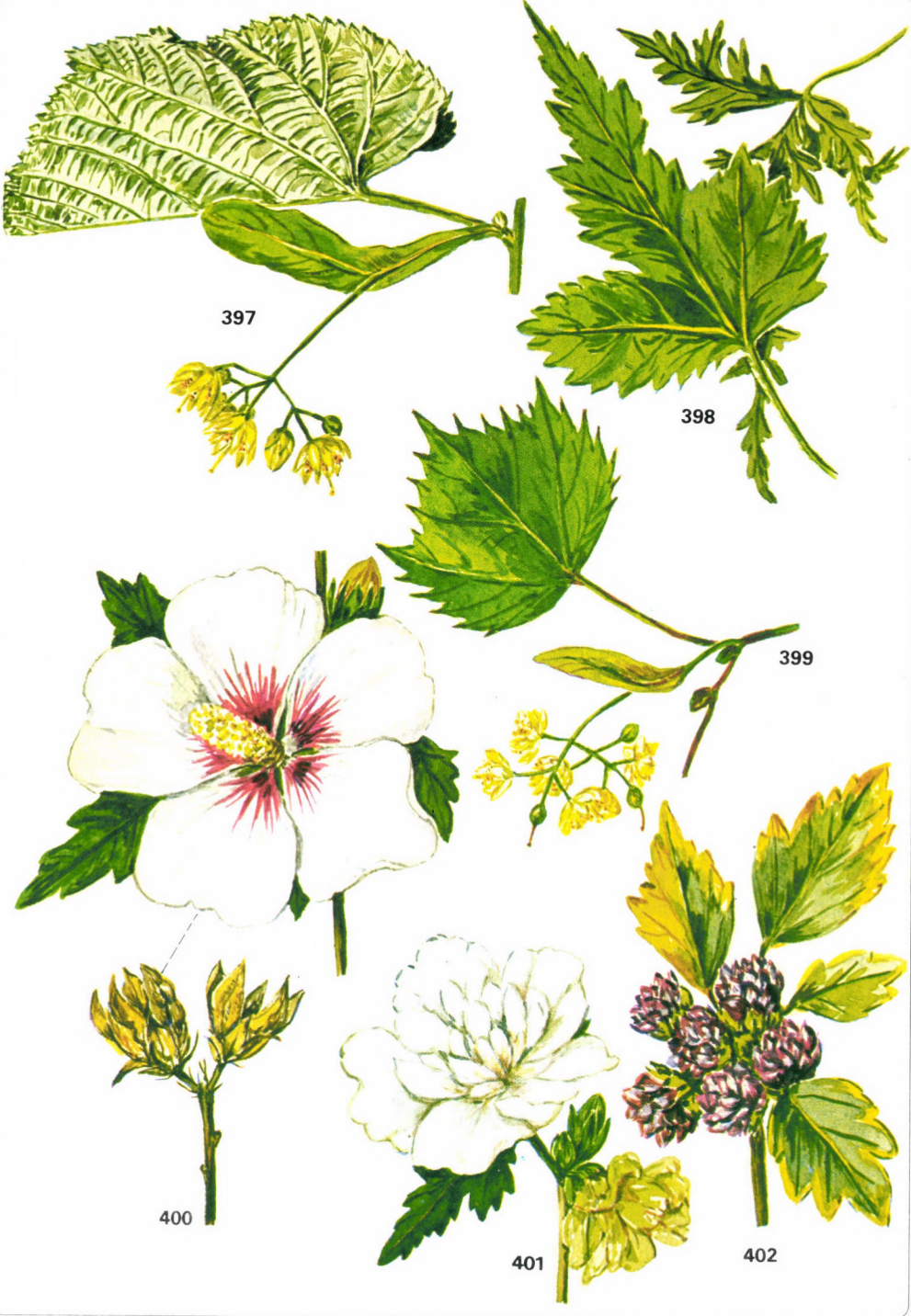


Plate 92

Actinidiaceae — Actinidia Family

403. *Actinidia arguta* (Sieb. et Zucc.) Miq. —
Bower Actinidia, Tara-Vine

A native of North China, Korea and Japan; a deciduous shrub climbing up to 5–7 m. Stems glabrous, the pith is brown or whitish and lamellate.

The thin leaves are glabrous on both sides. Flowers either dioecious or polygamous coming out in the leaf axils in June. The greenish yellow fruit is edible, therefore in several countries it is a cultivated plant. A fresh humous soil free of lime is the right place for it.

Theaceae — Tea Family

404. *Stewartia ovata* (Cav.) Weatherby
var. ***grandiflora*** (Bean) Weatherby

A 4–6 m high deciduous shrub from the state of Georgia in the south-eastern part of the United States. In Hungary often a smaller shrub only. Flower of 8–10 cm in diameter, composed of 6–8 petals bloom in July–August. Fruit is a 1.5–2 cm long woody capsule dehiscent into five valves, ribbed and tomentose. It is an ornamental shrub with beautiful flowers whose autumn foliage is orange- or crimson-red. The requirements are similar to those of the previous species.

405. *Myricaria germanica* (L.) Desv. —
German-Tamarisk
(Tamaricaceae — Tamarisk Family)

A 1–2 m high, deciduous shrub with rigidly upright, greyish brown, glabrous stems in Central and South Europe. The tiny scale-like, bluish green leaves are lanceolate. The pale red flowers clustered in narrow, upright, mostly terminal racemes open from May till August. The fruit is a small capsule dehiscent into three valves. It is a plant with very moderate requirements, much resembling *Tamarix*.

Hypericaceae — Hypericum Family

406. *Hypericum hookerianum* Wight et Arn.

An evergreen or semi-evergreen shrub; in North India and West China, its native land, 1–2 m high, but in Europe smaller. The reddish brown, glabrous stems are cylindrical. Vivid yellow flowers, 5 cm in diameter, open in the apexes of stems in

August–September. The fruit is a dry capsule with numerous tiny seeds. With its flowers coming out in profusion it is a valuable ornamental plant requiring a sunny place and a water-permeable soil rich in nutrients. It can be equally planted with perennials, in rock-gardens, in front of evergreen groups and as a solitary plant in open grassy places.

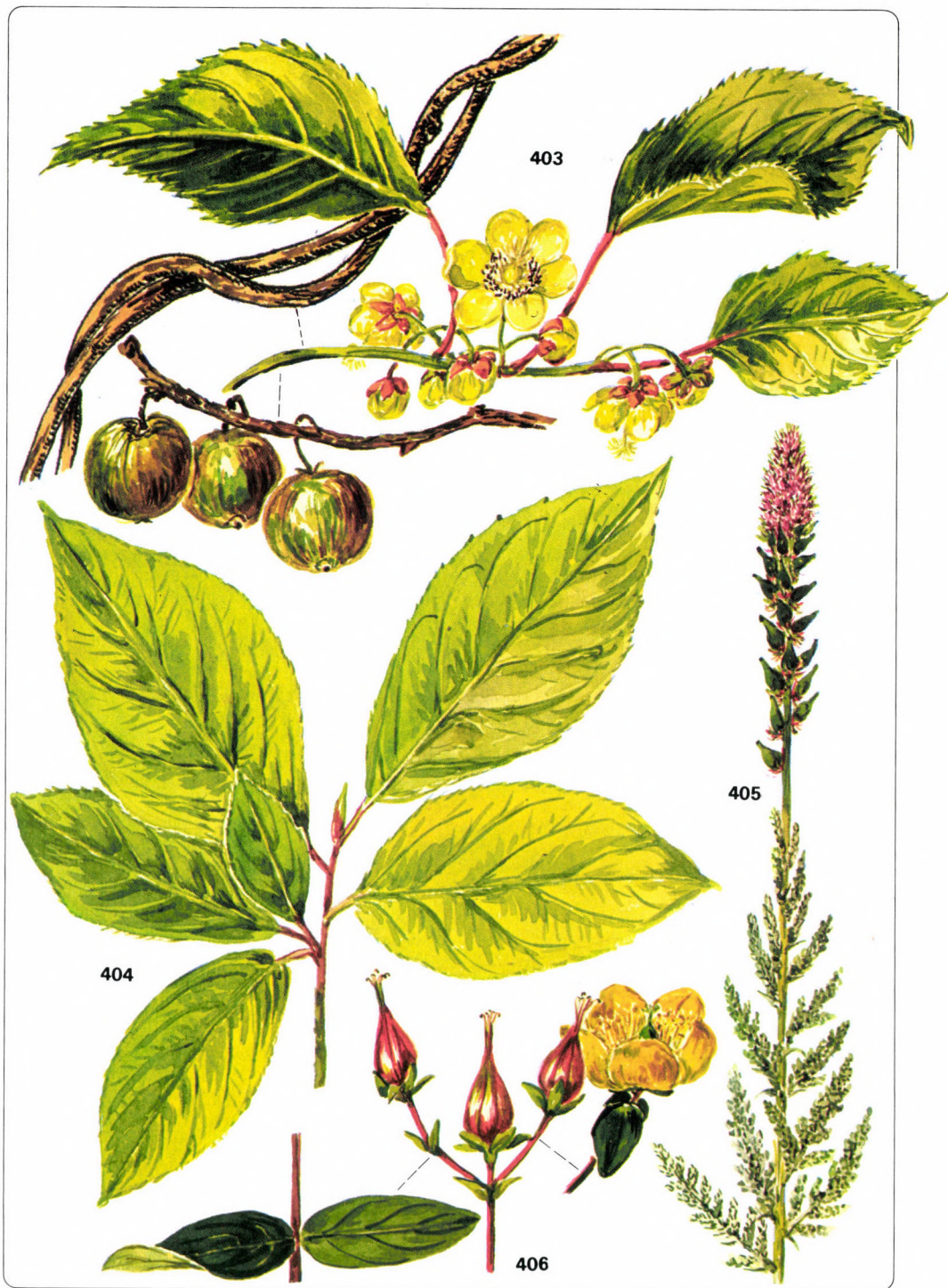


Plate 93

**407. *Hypericum calycinum* L. —
Aaron's Beard**

A shrub of 20–30 cm with a spreading base in South-eastern Europe and Asia Minor. The leaves are evergreen forming a thick carpet over the ground. Stems quadrangular, leaves thick with entire margin, glabrous dark green above. The bright golden yellow flowers open at the end of the stems singly or in twos or threes from July till September. It requires a fresh humous soil. Sunny, half-shaded and shaded places are equally good for its development, though in sunny places the leaves may suffer frost-bite, and fall. The large flowers with their long stamina are particularly decorative in gardens. Like the other *Hypericum* species it is a valuable shrub especially for flowering in summer.

408. *Hypericum patulum* Thunb.

A native of East Asia; a 50–80 cm high, spreading shrub, under milder climate evergreen, otherwise semipersistent or deciduous. The brown or brownish red stems are glabrous and two edged. The golden yellow flowers sit singly or in cymes at the apex of stems blooming from July till September. It requires a sunny place and a good soil.

**409. *Hypericum patulum* Thunb. f. *forrestii*
(Chitt.) Rehd.**

Its native country is South-western China; a 1 m high shrub with flowers larger than those of the

type species and the golden yellow petals spread horizontally. It produces a profusion of flowers. Other characteristics and requirements are the same as those of the previous species.

410. *Hypericum hircinum* L.

A 0.5–1 m high shrub or sub-shrub at the northern coast of the Mediterranean Sea, with overwintering foliage. The brownish, glabrous stems are slightly two-edged. The bright yellow flowers bloom from July till September. It prefers a warm and sunny place.

411. *Hypericum frondosum* Michx.

Native of the southern parts of the United States. It is a 0.5–1 m high, deciduous shrub with upright brown stems mostly without branches, two narrow edges run along the stems. The 3–6 cm large leaves are transparently punctate. Flowers grouped in cymes open in July–August. The requirements are similar to those for the previous species.

412. *Hypericum androsaemum* L. — Tutsan

It is a native of West and South Europe, Asia Minor; a 0.5–1 m high shrub with overwintering foliage. The stems are somewhat ancipitous. Leaves when crushed emit a faint aromatic smell. The pale yellow flowers bloom from July till September at the apex of stems. The spherical fruit is blackish claret.



Plate 94

Flacourtiaceae — Flacourtia Family

413. *Idesia polycarpa* Maxim.

A 10–15 m high deciduous tree in the southern parts of Japan, and central and western parts of China. The leaves are 10–25 cm long, dark green above and bluish green below; the petiole is

reddish. The dioecious or polygamous fragrant flowers open in May–June. The stems are ornamented from September till November with 7–8 mm large, orange-red or brownish berry-like fruits. It requires a fresh soil rich in nutrients in a warm, half-shaded and sheltered place. A dendrological rarity.

Tamaricaceae — Tamarisk Family

414. *Tamarix gallica* L. — French Tamarisk

It originates from the Mediterranean countries, a 3–5 m high, deciduous shrub of loose habit, in his native land sometimes a small tree. The stems are reddish brown, the shoots light green. The small, pink flowers at the apexes of shoots open from June till August. The fruit is a capsule with many seeds. Like most Tamarisks this species too has no particular demand on soil, it thrives even on dry or poor soils. A photophilous and thermophilous shrub planted for its summer flowering and fine foliage. Since it stands pruning it can be developed into a hedge.

415. *Tamarix odessana* Stev.

A 1.5–2 m high shrub with thin, yellowish brown stems in the south-western part of the Soviet Union. Its tiny, greyish green leaves are lanceolate and decurrent. Small, pale pinkish flowers open at the tips of the stems in July–August. The outspread petals are not shed when flowering is over. It is the hardiest species of all Tamarisks, equally tolerant to cold weather, poor soil and drought. Its ornamental value and utility are the same as with the previous species.

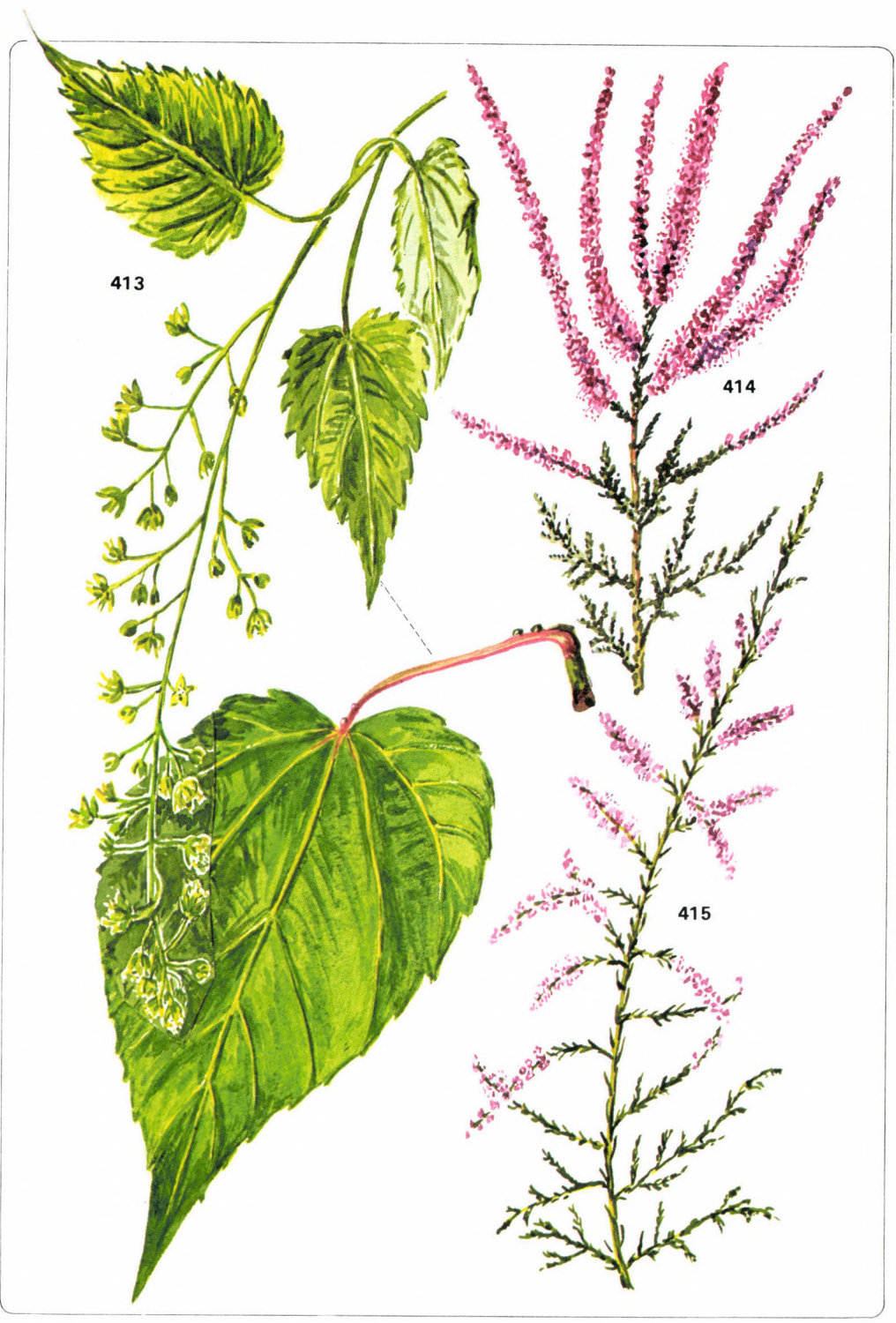


Plate 95

**416. *Tamarix hispida* Willd. —
Kashgar Tamarisk**

It is a 1 m high deciduous shrub in the region of the Caspian Sea. The stems and the bluish green or grey leaves are pubescent. The small, pinkish flowers open in August–September. The petals are not shed even when flowering is over. Being a thermophilous plant, sometimes dies back. It is planted for its beautiful flowers and colourful foliage.

417. *Tamarix tetrandra* Pall.

It is a native of South-east Europe and West Asia. A 3–5 m high shrub with erect branches standing apart; bark reddish brown or sometimes blackish. The thin shoots are arcuate. Its scale-like leaves are light green. The flowers are pink, small opening in April–May on the side of the stems. When flowering is over the petals are not shed. Owing to the large quantities of flowers it is the most favoured Tamarisk. It has no special demand on soil, is extremely tolerant to saline soils, and lends itself to pruning. A plant for a sunny place.

Cistaceae — Rock-Rose Family

418. *Cistus laurifolius* L. — Rock-Rose

Native of South-western Europe; a 1–2 m high fragrant evergreen shrub. Its entire, rather glutinous leaves are dark green on the upper and greyish tomentose on the lower surface. The fragrant, white flowers bloom in June to August. Expressedly a photophilous and thermophilous shrub. It requires a moderately dry soil, under colder climate should be protected from frost.

**420. *Helianthemum nummularium*
(L.) Mill. 'Rubin'**

A 20–30 cm high shrub with prostrate branches and upright stems. The somewhat leathery leaves are greyish white tomentose beneath. The dark red, full flowers come out in May and bloom until July. The *Helianthemum* species are plants for rock-gardens, dry and stony hill-sides. A sunny, warm place and dry, calcareous soil are required for them. Under these conditions the flowers bloom for a long time.

419. *Helianthemum 'Rubens'* — Sun-Rose

It is a 20–30 cm high, creeping evergreen shrub. Its simple flowers are flesh-red with yellowish centres.



Plate 96

Thymelaeaceae — Mezereum Family

421. *Daphne retusa* Hemsl.

Native of West China; a 50–70 cm high, evergreen shrub. The young stems are papillate-hairy and the leaves have revolute margins. The fragrant flowers are grouped in terminal heads blooming in May–June. The fruit is red. It requires a fresh soil and shaded places. A rarely encountered ornamental shrub.

422. *Daphne cneorum* L. — Garland Flower

A 10–30 cm high evergreen shrub in Central and South Europe, with creeping or upright branches. The 1–2 cm long, lanceolate leaves are glabrous dark green above, and bluish beneath. The fragrant, pink flowers open in terminal groups in April–May. Frequently there is a second blooming period at the end of summer. The fruit is yellowish brown. It is a photo- and thermophilous plant, requiring a dry, calcareous detrital humous soil. A nice plant for rock-gardens.

423. *Daphne alpina* L.

It is a 15–30 cm high, deciduous shrub in higher mountains of the Mediterranean countries. The fragrant, white flowers grouped at the shoot tips open in May–June. The fruit is red. It requires a humid climate and a calcareous soil.

424. *Daphne blagayana* Frey.

A prostrate evergreen shrub in the mountains of South-east Europe. The leaves are of terminal

position. Highly scented flowers clustered in terminal heads open in April–May. The fruit is pinkish white. It requires a fresh soil free of lime under a humid microclimate in half-shaded or shaded places.

425. *Daphne laureola* L. — Spurge-Laurel

Its native land extends from West and Central Europe, and the Mediterranean countries to West Asia. It is a 1 m high, sparsely branched evergreen shrub with leathery, glossy, dark green leaves. The weakly fragrant flowers forming short racemes in the leaf axils open in March–May. The fruit is bluish black. Fresh, humous, calcareous soil, and a humid, half-shaded or shaded place are required for this shrub. Its evergreen leaves are very decorative.

426. *Daphne giraldii* Nitsche

A 30–50 cm high, deciduous shrub in North-west China. The golden yellow flowers bloom in May–June. The red fruit becomes ripe in July.

427. *Daphne mezereum* L. — Mezereum, Mezereon

It is a native of Europe, Caucasus and Siberia; a 0.5–1 m high deciduous shrub with strongly scented, pink flowers opening before leaf-budding in February–March along the stems. The scarlet fruit is poisonous. Best planted at half-shaded or shaded humid, cool in humous soil rich in minerals. Owing to its early flowers it is much liked as a harbinger of spring.



Plate 97

Elaeagnaceae — Oleaster Family

428. *Elaeagnus umbellata* Thunb.

A 3–4 m high, wide deciduous shrub from the Far East. The leaves are light green above and silvery beneath with scattered brown scales. The whitish yellow, fragrant flowers bloom in May–June. The subglobose, first silvery brown then red edible fruit ripens in September–October, and remains for some time on the branches after the fall of the leaves. In a sunny spot with good soil it develops rapidly.

429. *Elaeagnus multiflora* Thunb.

Native of Japan and China; a 2–3 m high, deciduous shrub with brown, outspread branches. The leaves are dark green above and silvery beneath. The yellowish white flowers with silvery and brown scales on the outside, bloom in May. The slightly acidic red fruit is edible. Requirements similar to those of the previous species. It can be planted in singles or groups; also suitable as a hedge plant.

430. *Elaeagnus commutata* Bernh. — **Silverberry** (*E. argentea* Pursh)

A 2–4 m high, spineless, deciduous shrub from North America with reddish brown branches and a spreading base. The leaves are silvery and shiny on both sides. Flowers silvery outside, yellow inside, emitting a strong smell open in May–June. The fruit is farinose and dry. It requires a fresh soil rich in nutrients, and a sunny spot. Owing to its beautiful foliage and rapid spread it is frequently planted. Suitable to bind shifting soils and slopes.

431. *Elaeagnus angustifolia* L. var. *spinosa* (L.) O. Kuntze — **Spiny Oleaster**

Its native land extends from South Europe to Mongolia. It is a 4–8 m high, deciduous shrub or tree. The branches are armed with long, straight spines. Flowers 1 cm across, silvery outside and yellow inside emitting an intoxicating smell, open in the leaf axils in May–June. The farinaceous fruit is silvery grey later turning brownish. It is a photophilous and thermophilous plant with very moderate requirements; thriving even on dry, poor soil and in an environment with polluted air. Much liked for its rapid growth and silvery foliage. It can be developed into a high impenetrable hedge.

432. *Hippophaë rhamnoides* L. — **Sea-Buckthorn**

It is at home over a large territory from Europe to North China. A 2–4 m high, deciduous shrub rapidly spreading from its base and soon covering a large surface. Its reddish brown stems are armed with spines. The lanceolate leaves are greyish green above, silvery white below, while the main vein is rusty brown. The one-sexed, small flowers open on different plants in April. The branches are ornamented with the glabrous, orange-yellow fruit from August till the leaves fall. It requires a moderately moist, loose, calcareous soil in a humid microclimate, though survives even on poor, dry soil. A photophilous plant much liked for its silvery foliage, decorative fruit and rapid growth. From the high vitamin C content fruit a tasty squash is prepared.

Lythraceae — Loosestrife Family

433. *Lagerstroemia indica* L. — **Crape-Myrtle**

A native of China, where it is a 3–6 m high deciduous shrub or tree. The white, pink or red flowers of 3–4 cm in diameter open in terminal

panicles from July till September. A photo- and thermophilous plant which survives in the open air only in a few favourable sheltered places in the southern part of Central Europe, consequently it had better be kept in glass-house. Its rather bizarre flowers are most attractive.

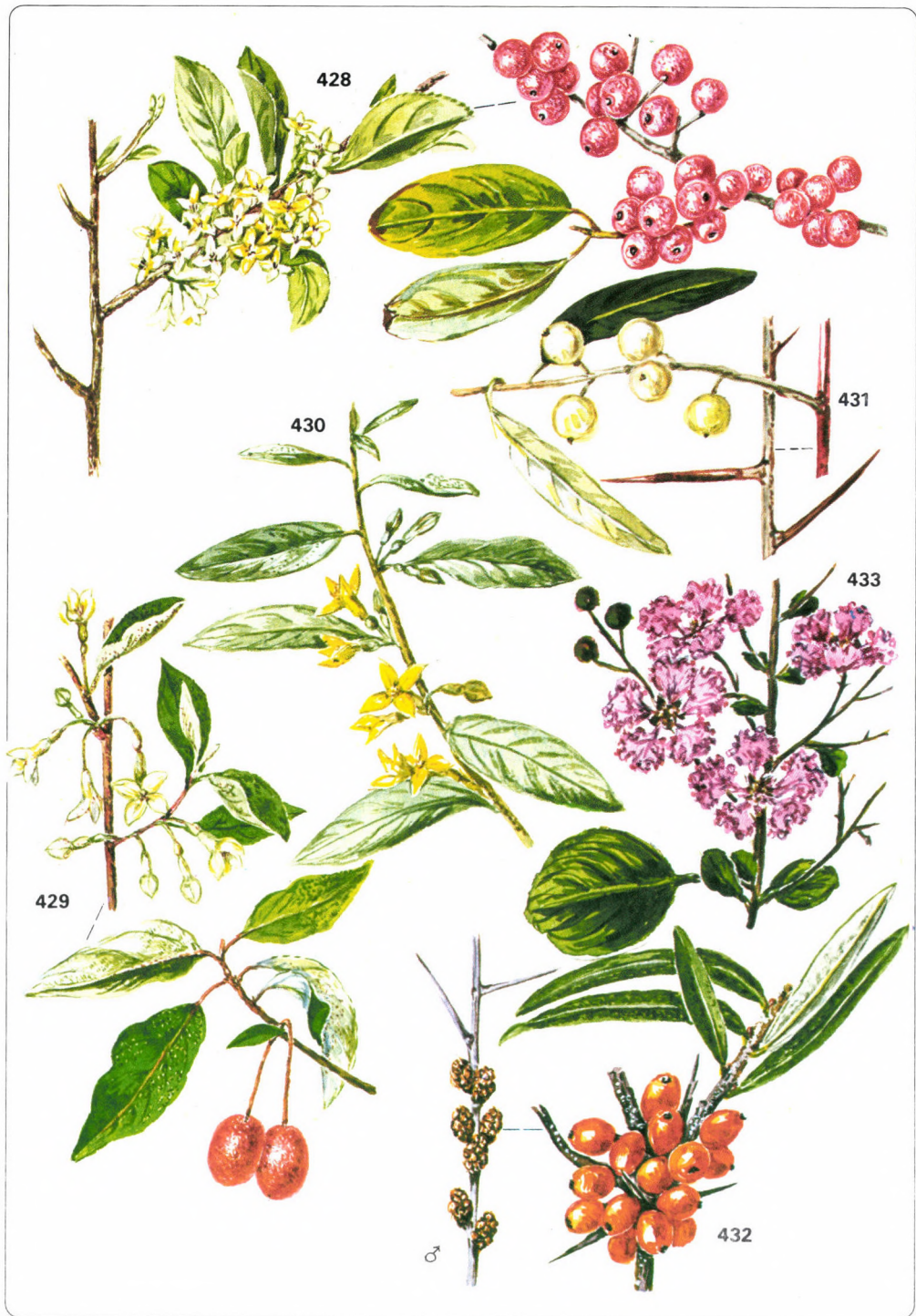


Plate 98

Punicaceae — Pomegranate Family

434. *Punica granatum* L. — Pomegranate

The native land of pomegranate extends from South-east Europe to the Himalayas. It is a 2–4 m high, deciduous shrub or small tree with entire opposite leaves standing scattered, on the longer stems. The simple or full flowers (*P.g.* 'Pleniflora Variegata') bloom continuously from June till

September. The characteristic, many-seeded fruit is 2–10 cm in diameter. It requires a water-permeable, warm soil, a sunny, sheltered place. Under such conditions it sometimes overwinters even in Central Europe, though had better be protected against cold. Often it is raised therefore in pot, and transferred to a frostfree place. An ornamental shrub of southern character.

Nyssaceae — Nyssa Family

435. *Davidia involucrata* Baill. — Dove-Tree

In its native country, North China, a 15–20 m high, in Europe a much smaller deciduous tree. The bare stems end in large buds. The leaves are glassy green and glabrous above, and greyish pubescent below. The flower heads, 2 cm in diameter, are enclosed with 2, seldom 3 white bracts of opposite position and different size, one of them may be as long as 16 cm. Flowering time is in May–June, the fruit becomes ripe in October. It should be planted in fresh humous soil free of lime, in a humid climate, at a half-shaded, sheltered place. With the unforgettable sight of its bloom it is a most valuable park tree.

436. *Nyssa sylvatica* Marsh. — Tupelo

It is a native of the eastern part of North America; a 20–30 m high deciduous tree with a roundish crown, sometimes truncate at the top. Leaves entire, dark green and glabrous above, bluish below. The insignificant flowers come out in May. Its principal value lies in the scarlet autumn colour of the foliage. One of the most beautifully coloured trees. It requires a fresh or moist soil rich in nutrients and free of lime, in a spot with much light and a warm temperature.

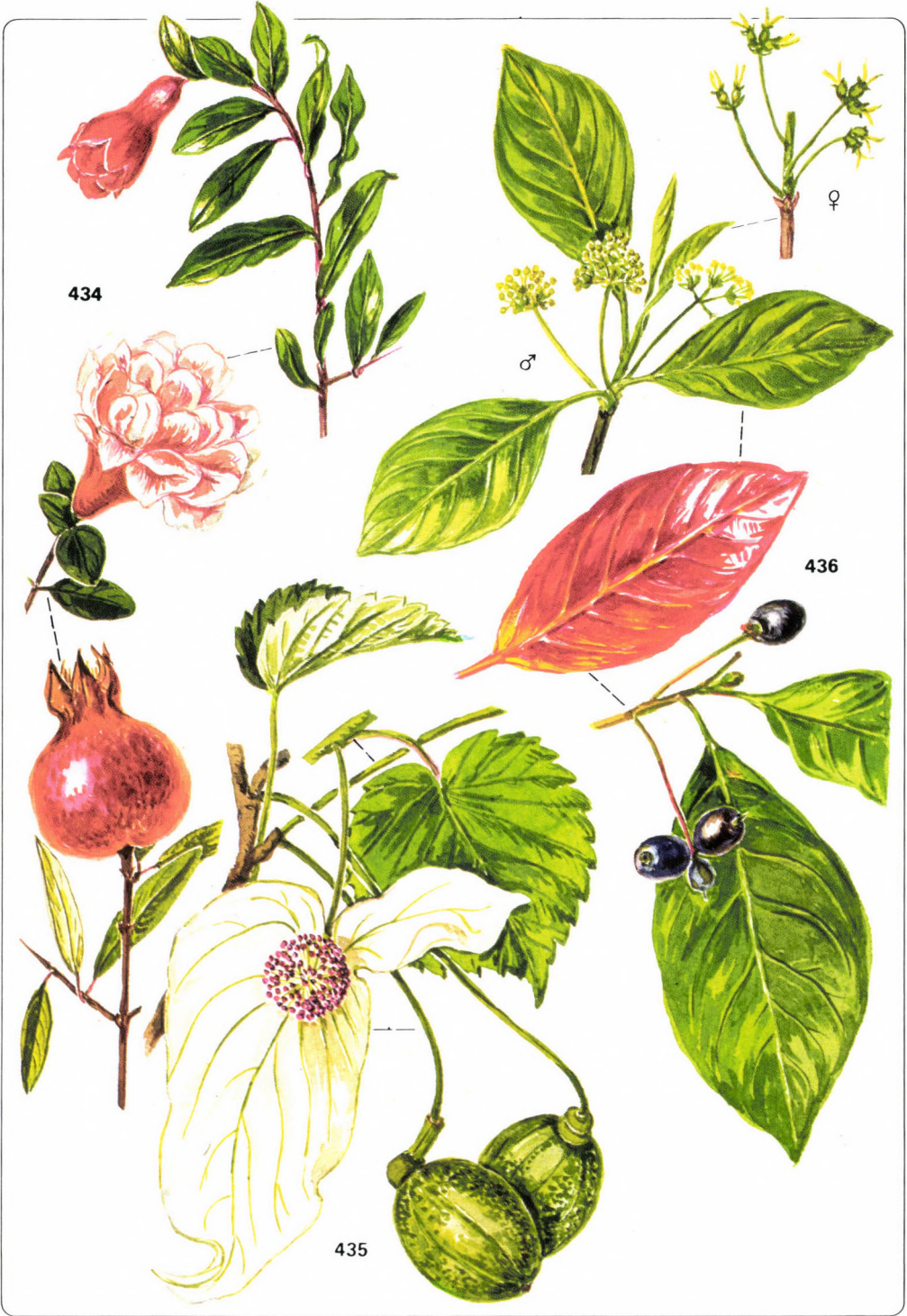


Plate 99

Onagraceae — Evening-Primrose Family

437. *Fuchsia magellanica* Lam.
'Gracilis' —
Fuchsia

A 1.5–3 m high deciduous shrub from Chile. On the thin, reddish stems the leaves are mostly opposite.

Its peculiarly coloured and shaped flowers bloom from June till September. In fresh, humous soil at a half-shaded, sheltered place it develops well and produces large quantities of flowers. Advisable to cover it in winter, since in severe cold it may die back to the base.

Araliaceae — Ginseng Family

438. *Aralia spinosa* L. — Hercules' Club,
Devils-Walking-Stick, Angelica-Tree

A tall shrub or a 10–15 m high sparsely branched deciduous tree densely covered with spines in the south-eastern part of the United States. The leaves are bipinnate, 40–80 cm long and 30–60 cm wide. The small, white flowers are terminally clustered in panicles of 20–30 cm in diameter blooming in July–August. Fruit globose and black, becoming ripe in September–October. It requires a fresh, rather loose soil rich in nutrients in a sunny or half-shaded place. With its prickly branches, large leaves and inflorescence, and its bizarre shape sharply differs from other ornamental shrubs.

439. *Acanthopanax divaricatus*
(Sieb. et Zucc.) Seem.

Its native land is in Japan and China. A 1–3 m high, deciduous shrub with outspread branches. Stems sparsely covered with prickles. Flowers clustered in terminal umbels open in August. Requirements similar to those for the following species.

440. *Acanthopanax henryi* (Oliv.) Harms

Native of Central China; a 2–3 m high deciduous shrub. Both its stems and branches are setaceous and spiny. The leaves are palmate, with 3–6 cm long leaflets. The green flowers grouped in umbels bloom in August–September. The black fruit becomes ripe in October, and remains on the branches long after defoliation. It requires a moderately dry, sunny place. A plant particularly interesting when leafless.

441. *Aralia elata* Seem. —
Japanese Angelica-Tree

A large shrub or a 10–15 m high tree originating from North-east Asia. In most parts of Europe seldom higher than 4–5 m. The trunk and the stems are both covered with spines, while on the rachis prickles set in pairs are usually found at the branching points only. The flowers come out in August. Its ornamental value and requirements are the same as under No. 438.

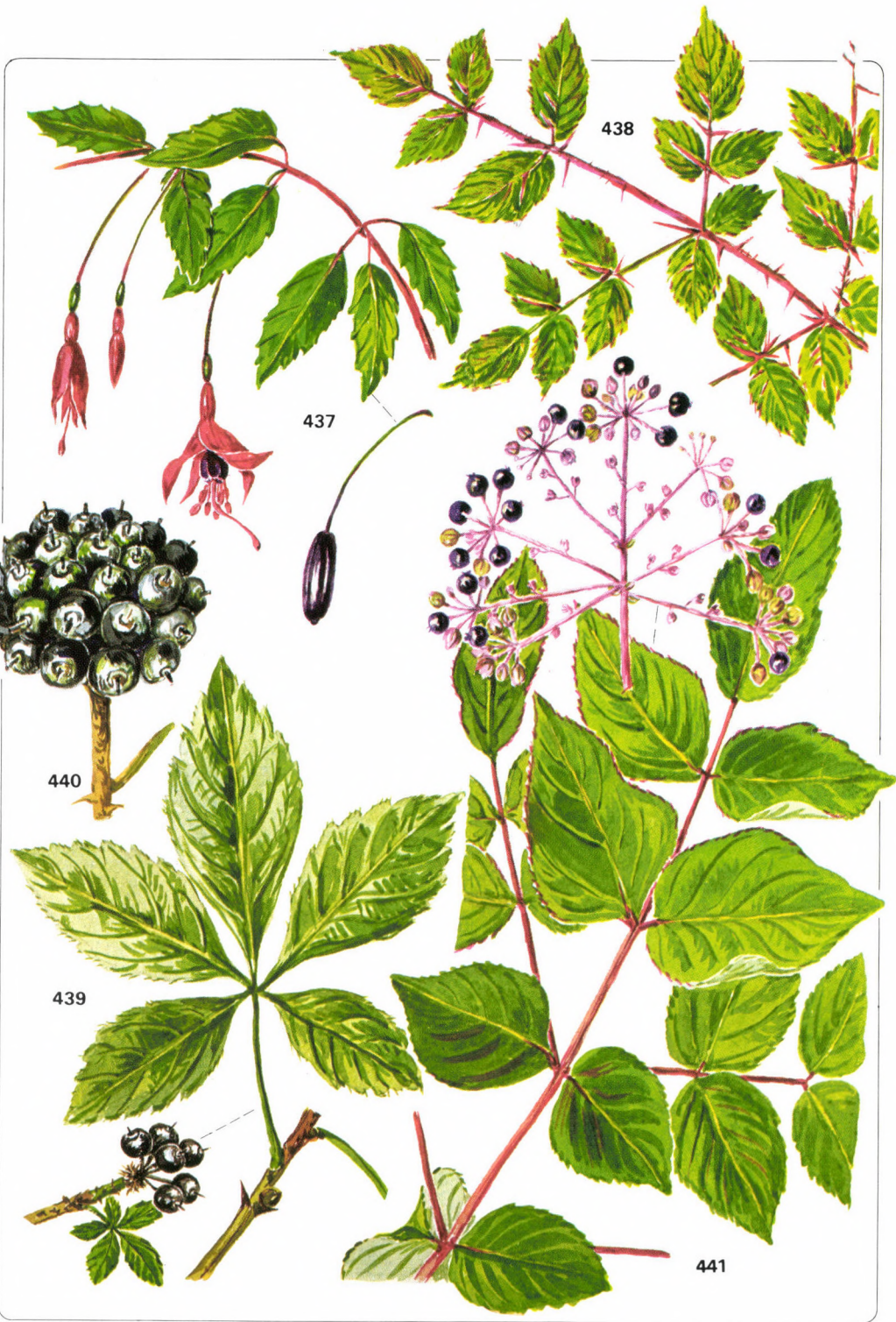


Plate 100

442. *Hedera colchica* K. Koch — Colchis Ivy

It is a native of South-east Europe, the Caucasus and Asia Minor. An evergreen shrub of vigorous growth, climbing high; the large, leathery leaves emit when crushed a small strongly resembling that of celery. Its greenish yellow flowers form globose umbels. The fruit is 6–8 mm, bluish black. It requires a fresh soil rich in mineral resources in a humid, shaded place. Being slightly frost-sensitive, under colder climates it had better be planted in a sheltered place. Its large leaves are very attractive.

443. *Hedera helix* L. 'Pedata'

Leaves smaller and lobes narrower than in the type species.

444. *Hedera helix* L. 'Conglomerata'

A variety of dwarf habit with stems first upright, later pendulous or prostrate. The crispate leaves are mostly set in two rows. It is cultivated also as a pot plant.

445. *Hedera canariensis* Willd. 'Variegata' — Algerian Ivy

North-west Africa and the nearby islands are its native land. An evergreen shrub climbing high. Its mottled-leaved variety is more often cultivated — mainly as a pot plant.

446. *Hedera helix* L. — Common Ivy, English Ivy

An evergreen shrub in Europe, Anatolia, and the Caucasus. It is very frequent in the forests of Hungary too. Clung to the trunks of trees or to walls with its aerial roots climbs 20–30 m high. It has two kinds of leaves; 3–5-lobed on the sterile stems, and ovoid and entire on the producing fertile shoots at the apical parts of older, flowering plants. The small, greenish yellow flowers form spherical umbels in September–October. It requires a fresh, humous soil in a shaded place. It soon covers a large area on the surface of the ground, and is therefore frequently planted to replace grass in shade. It climbs trees, walls, rocks; can also be used to cover walls of buildings facing north.

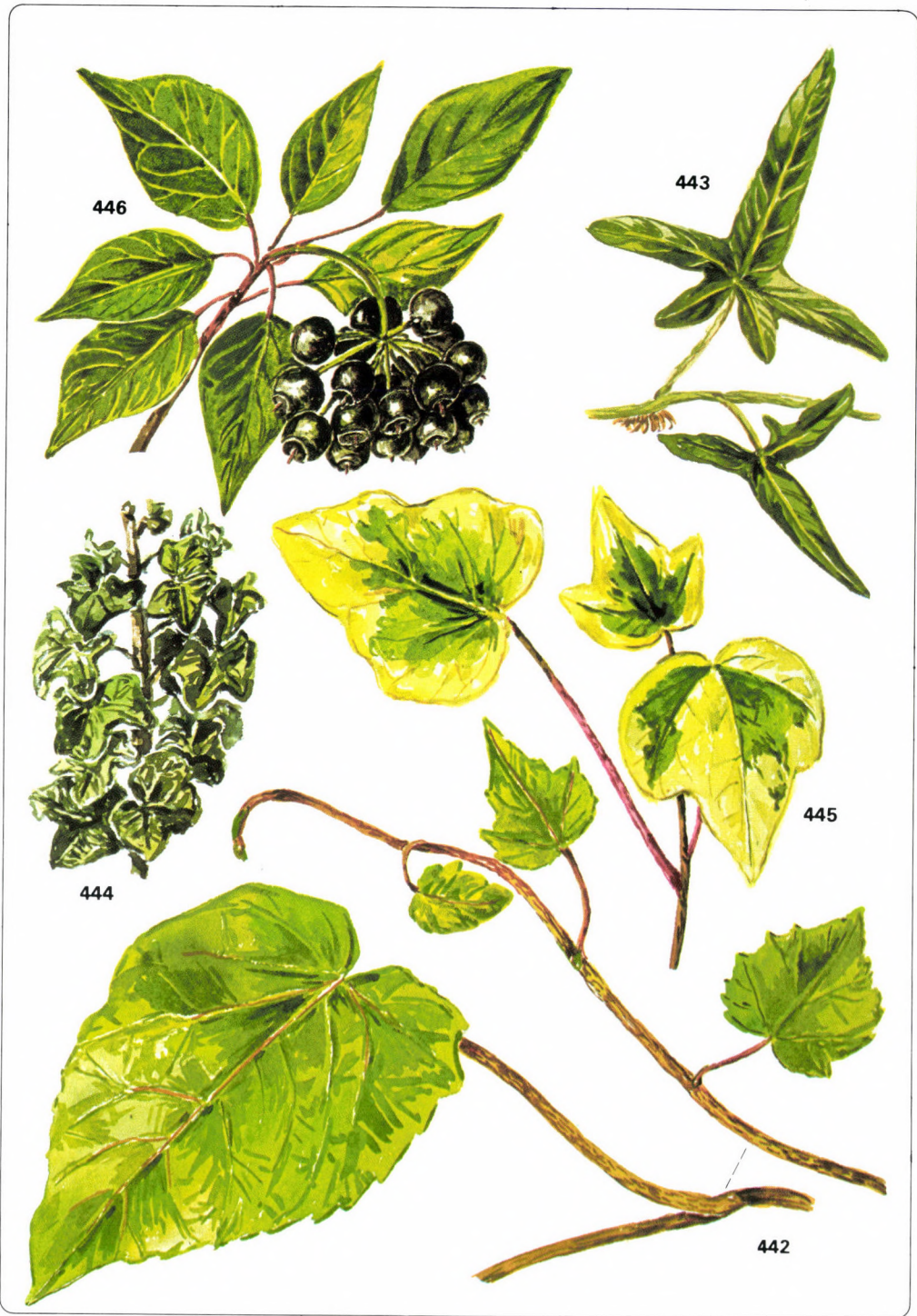


Plate 101

Cornaceae — Dogwood Family

447. *Cornus sanguinea* L. — Red Dogwood, Bloodtwig Dogwood

A deciduous shrub of 3–4 m in the woods and scrub-forests of Europe. It spreads rapidly with tillers. The thin, brownish green stems turn red on the sunny side. The foliage displays a wide range of colours in autumn. The highly scented flowers open in May–June, the fruit becomes ripe in September. Modest in requirements, thrives well both on dry and wet soil, and even in shade. A calciphilous plant. Most suitable for binding shifting soils, areas full of ravines, hill-sides. The flowers, the fruit, the colour of the autumn foliage, and even the leafless stems are decorative.

448. *Cornus stolonifera* Michx. — Red-osier Dogwood

Originates from the eastern regions of North America; a 1.5–2.5 m high shrub with spreading base and branches pushing out roots. The stems and branches are dark reddish, the leaves turn also red in autumn. Its flowering time is in May–June, the whitish, 5–8 mm fruit ripens in September–October. A shrub covering a large surface, whose coloured stems are very attractive especially in winter, with a snowy background. It had better be planted in a good quality soil, in a sunny or half-shaded place. A plant of rapid growth.

449. *Cornus alba* L. — Tatarian Dogwood, Red-barked Dogwood

A shrub of 2–3 m in the northern regions of Asia. The upright, dark red stems are somewhat pruinose when young. The small, yellowish white flowers

form panicles of 3–5 cm in diameter, blooming in May–June. Its fruit becomes ripe in August–September. Owing to the red autumn foliage and the decorative stems it is frequently planted. Requirements are the same as for the previous species.

450. *Cornus alba* L. 'Sibirica'

This shrub is somewhat smaller than the type form. The stems are more vivid red and the leaves broader. The brighter colour of stems makes it more valuable, therefore, it is more frequently encountered in gardens and parks. A plant for a sunny spot.

451. *Cornus alba* L. 'Argenteomarginata'

Leaves white-edged, other properties the same as in the nominate form. The leaves tend to get sunburnt.

452. *Cornus alba* L. 'Spaethii'

A shrub of 1.5–2 m, whose leaves when budding are bronze, later either entirely yellow, or yellow-edged. It is the most beautifully coloured dogwoods.

453. *Cornus amomum* L. — Silky Dogwood

A 2–4 m high, wide deciduous shrub with purplish brown stems in the eastern regions of North America. Its yellowish white flowers clustered in panicles of 4–6 cm in diameter open in May–June. The fruit becomes ripe in September. It lives on a fresh or moist soil rich in nutrients in sunny or half-shaded places. Most suitable for covering large surfaces.

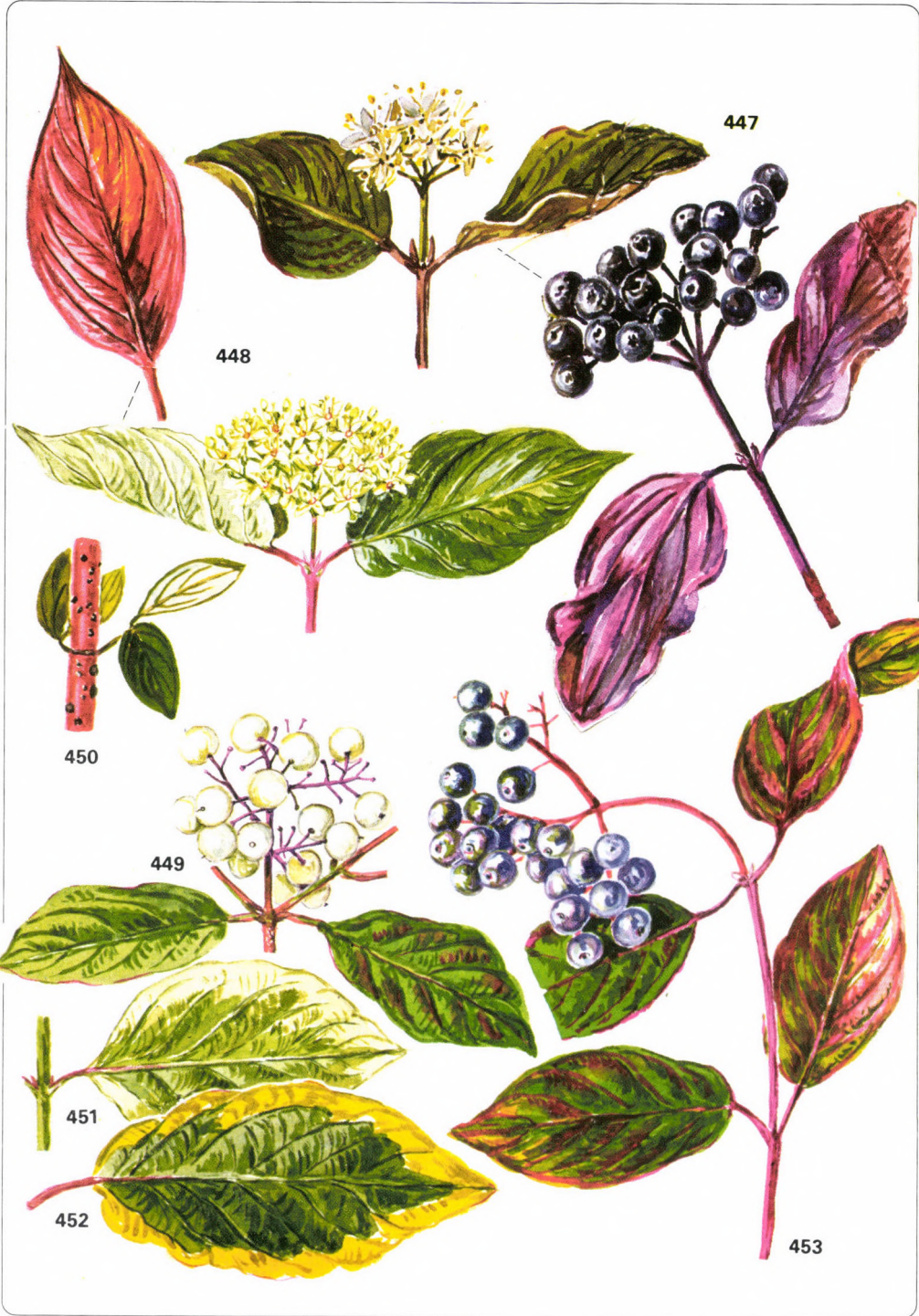


Plate 102

454. *Cornus florida* L. — Flowering Dogwood

A native of North America; a deciduous tree or a larger shrub with loosely arranged branches. The shoots are green, the stems brown, somewhat pruinose. Its bright green leaves turn scarlet or purplish red in autumn, and remain on the branches for a long time. The flowering period is in May; the small flowers are enclosed in four large bracts, the latter give the shrub its ornamental value. The decorative, colourful fruit becomes ripe in September–October. It should be planted in fresh soil rich in nutrients, free of lime, acidic in reaction, at a place sheltered from the glare of the sun. When in full blossom, it is an unforgettable sight.

455. *Cornus mas* L. — Cornelian-Cherry

Native of Central and South Europe as well as in West Asia. It is a tall shrub, sometimes a smaller tree

of 4–6 m. Shoots with opposite leaves are greenish grey, on the sunny side purplish, at the beginning pubescent, later glabrous. The leaves are yellow in autumn. The flowers come out before leaf-budding in February–March, as the harbingers of spring. The slightly acidic edible fruit becomes ripe in August–September. A photo- and thermophilous plant. Prefers a loose, calcareous soil; tolerant to drought. It is one of the most beautiful shrubs of early spring.

456. *Aucuba japonica* Thunb. 'Variegata' — Spotted-Laurel

The type form is a native of Japan and Korea; an evergreen shrub of 1–1.5 m, with thick, green stems. The leaves densely yellow spotted. Most frequently kept in pots, though in fresh soil rich in nutrients, in a humid, half-shaded place, it overwinters in the open.

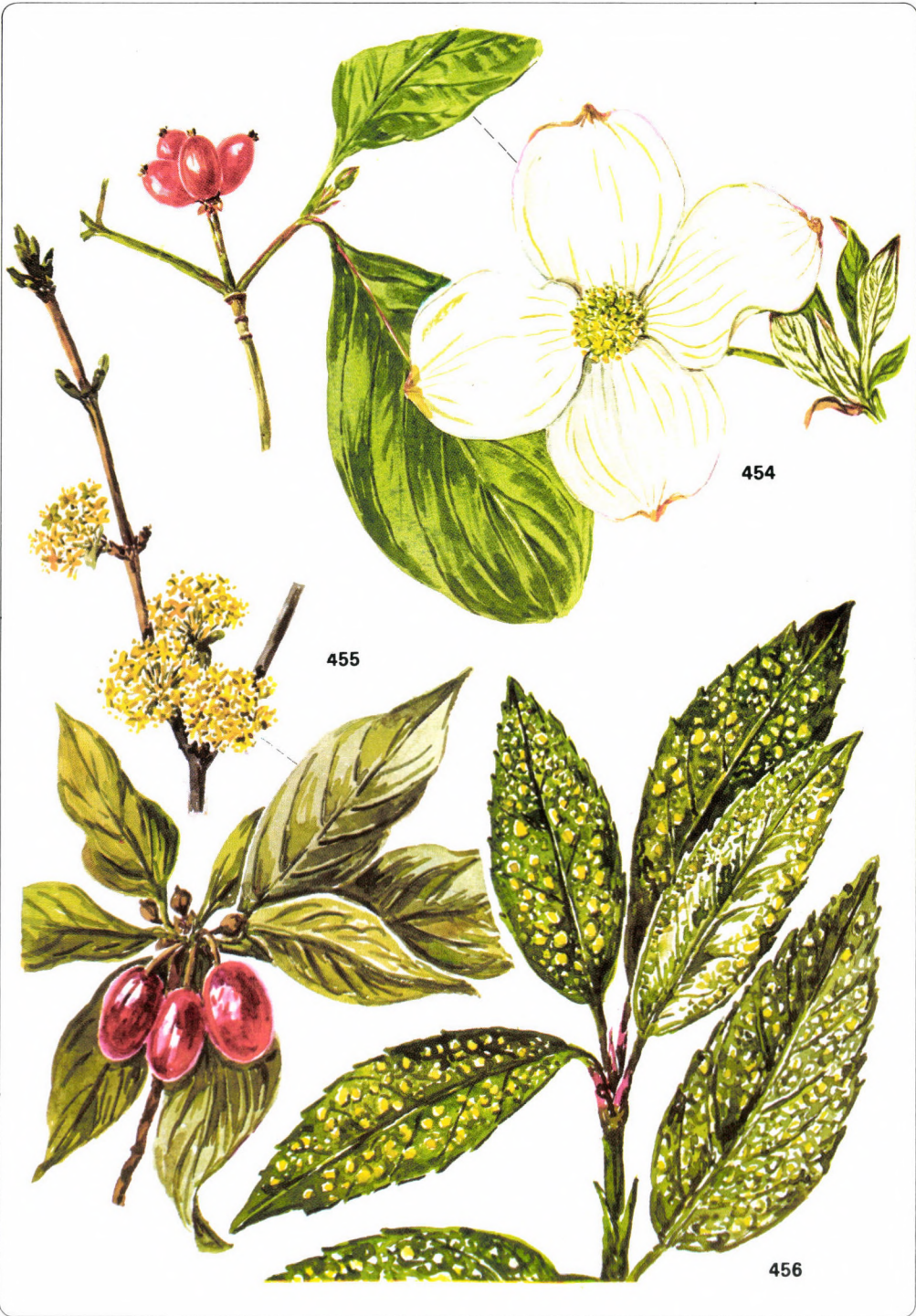


Plate 103

457. *Aucuba japonica* Thunb. 'Longifolia'

This variety has much narrower leaves. Dioecious, with one-sexed flowers in umbel-like, or—in the male plants—large, elongated panicles opening in March–April. The fruit becomes ripe in November

remaining on the branches throughout the winter. A plant for half-shaded or shaded place with medium moist soil. Under colder climate it should be covered up for the winter. Also cultivated as a pot plant, it lasts long even in cold rooms with poor illumination.

Clethraceae — Pepperbush Family

458. *Clethra alnifolia* L. — Sweet Pepperbush

A 2–3 m high, deciduous shrub from the eastern parts of North America. The shoots and even the young stems are covered with soft pubescence.

Its fragrant flowers open in July–September. The capsulate fruit includes innumerable seeds. In its native country it lives on marshy, wet soils free of lime. A half-shaded, humid place should be chosen for it. By tillers—produced in abundance—easy to propagate.

Ericaceae — Heath Family

459. *Rhododendron impeditum* Balf. f. et W.W.Sm.

It is a 20–40 cm high, thickly branched, evergreen shrub with a dense foliage, living in 4–5,000 m high mountains in Yunnan (China). The flowers bloom in May, but a second flowering may occur in August and September. A very winter-hardy plant of slow growth. Owing to its small stature it is suitably planted in rock-gardens. Like the other congeners it requires a humid climate a half-shaded place and an acidic, fresh but not too heavy soil.

460. *Rhododendron discolor* Franch.

It originates from Central China (Szechwan and Hupeh), where it is a shrub of 5–6 m, while in Central Europe is seldom higher than 1.5–2 m. The large, decorative, leathery leaves are evergreen. Its fragrant flowers open in June or at the beginning of July. As a *Rhododendron* producing flowers very late, it is particularly valuable. A calciphobous plant.



Plate 104

461. *Rhododendron* 'Cunningham's White'

It was first produced in 1850 by crossing *R. caucasicum* and *R. ponticum* 'Album'. Flowering at the end April, beginning of May. A much liked ornamental variety.

462. *Rhododendron catawbiense* Michx. — Mountain Rose Bay

A 2–4 m high broad, evergreen shrub in the eastern part of North America; it lives in the mountains of Alleghany, well above 1,000 m. The shoots are pubescent at the beginning, later becoming gla-

brous. The flowers open at the end of May, beginning of June. Corolla mostly lilac but a host of varieties are known to have all hues from white to purple. It is a hardy evergreen.

463. *Rhododendron vaseyi* Gray

A 2 m high, deciduous shrub in North Carolina, United States of America. Its light brown young shoots are finely hairy, later becoming quite glabrous and greyish brown. The buds are broad ovoid. The flowers come out before the leaves at the end of April, beginning of May. A rapidly growing, hardy plant.



462

461

463

Plate 105

464. *Rhododendron japonicum* (Gray) Suring.

A native of the northern and central parts of Japan; a 1–2 m high, upright, densely branched, deciduous shrub. The young stems are somewhat setose, sometimes glabrous. Its thin leaves turn yellow or reddish in autumn. The variedly coloured, scentless flowers open before the leaves come out, at the end of April or beginning of May. It is a much liked ornamental shrub, suitable for forcing. One of the parents of many, beautiful garden varieties.

465. *Rhododendron luteum* Sweet

Native of East Europe and the regions of the Caucasus and the Black Sea. It is 1–3 m high, roundish, densely branched, deciduous shrub. The young stems are sticky, covered by thick glandular hair. The leaves display in autumn many shades of yellow and red. The highly fragrant flowers open

shortly before the budding of the leaves in May. It is a very hardy, much liked plant, which has frequently been used for crossing. Numerous colour varieties are known.

**466. *Rhododendron viscosum* Torr. —
White Swamp-Honeysuckle**

A native of the eastern parts of North America; a 1.5–2 m high, deciduous shrub with a loose habit and sometimes with prostrate branches living on marshy, wet soils. The young stems strigillose or hirsute. The buds are brown, glabrous, or sometimes somewhat pubescent, ovoid in contour. The highly fragrant flowers open in June–July, sometimes in August. Owing to the pleasant smell and late opening of flowers it is welcome in gardens and parks. It requires a peaty, acidic soil with a good water balance and a humid climate, or microclimate.



Plate 106

467. *Rhododendron mucronatum* G. Don
(*Azalea ledifolia* Hook.)

It takes its origin from the gardens of Japan and China; unknown in wild state and was handled like a tender pot plant as far as the beginning of this century. It is a 1–1.5 m high, densely branched, spreading shrub, whose width frequently surpasses its height. The young stems, the petioles are covered by thick greyish or brownish hair. It has two kinds of leaves, the spring stems bring 4–10 cm long, elliptic leaves falling in autumn, while the summer shoots have lanceolate, leathery leaves of 1–4 cm, which are semipersistent. Its fragrant flowers open in May. A much liked shrub with beautiful flowers.

468. *Rhododendron micranthum* Turcz.

A native of Central and North China; a 1–1.5 m high, densely branched evergreen shrub. Shoots and stems are thin. Flowers open in May–June.

469. *Rhododendron yedoense* Rehd.
var. ***poukhanense* Nakai**

A 1–1.5 m high, thickly branched, deciduous shrub with thin stems; a native of Korea. The young stems are strigillose, in the second year glabrous. Its fragrant flowers open at the end of April.

470. *Rhododendron mucronulatum* Turcz.

A 1–2 m high, thick, deciduous shrub in North China, Korea and Japan. Its short, thin stems are sparsely scaly. The flowers come out very early, well before the budding of leaves, in February–March. In mild winters the flowers may open as early as in January. Owing to its early flowering it should be planted in a sheltered place.



Plate 107

471. *Rhododendron schlippenbachii* Maxim.

A deciduous shrub from the forests of North China, Korea and Japan. It is 2 m high, but in its native country may even reach a height of 5 m. Its light brownish stems are glandular pubescent, later glabrous. Leaves, mostly in fives at the end of short branches, assume a beautiful colour in autumn. The flowers come out simultaneously with the leaves, or somewhat earlier, in April–May. A hardy plant, one of the most beautiful *Rhododendrons*.

472. *Rhododendron kaempferi* Planch.

Native of the central and northern parts of Japan. A 1–2 m high, sparsely branched, deciduous or overwintering shrub. Its young stems and shoots are at the beginning rusty red and setose. The colour of flowers is varied, forms with pink, orange or scarlet flowers are known. The most striking ones are those with a dark red colour. The height of its flowering period is in the first half of May, but the different varieties flower at various times. A winter-hardy plant frequently encountered in parks and gardens.

473. *Rhododendron obtusum* Planch.

Possibly a hybrid of the previous species originated from Japan; a low, hardly 50–70 cm high, thick shrub. The stems are densely covered by brown hair. The leaves are of two kinds: the spring leaves are 1.5–4 cm long and fall in autumn, while those coming out at the beginning of summer are smaller, thicker and remain on the shrub throughout the winter. The flowers open in May, the colour varies from orange- to fire-red, since innumerable varieties are known.

The *Rhododendron* species have flowers of varied shape and bright colour, and often decorative leaves, and are therefore frequently encountered in parks and gardens of all kinds. Unfortunately, they have special requirements: high humidity content, shelter from strong wind and hot sun. The soil should in any case be acidic (pH 4–5) and fresh. A peaty, medium heavy soil rich in nutrients is the most suitable. In case these requirements are not fully supplied they perish in a short time, while responding to the right conditions with abundant flowering.

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Plate 108

474. *Menziesia purpurea* Maxim.

It is a 0.5–1 m high, broad, deciduous shrub from Japan. Very similar to *Rhododendron* both in habit and requirements. The flowers come out in May–June, when it is a most attractive shrub.

475. *Kalmia latifolia* L. — Mountain-Laurel, Calico-Bush

A 6–10 m high tree, or a large shrub in the eastern part of the United States. In Central Europe it is much smaller, only 1–2 m. The shoots and evergreen leaves are glabrous. The flowering period is in May–June. In its native territories, in regions rich in oceanic precipitation it frequently lives on rocky, stony soil, though in Central Europe requires a fresh, acidic soil, in humid, half-shaded places.

476. *Enkianthus campanulatus* (Miq.) Nichols.

In Japan it is a 10 m high tree, while in Europe, a shrub of 2–3 m only, with upright stems. The leaves turn fire-red, then fall in autumn. Its peculiar flowers open in May. Best planted in a fresh, humous soil free from lime.

477. *Enkianthus perulatus* (Miq.) Schneid.

A plant of 1–2 m, another native of Japan; the young stems are reddish and glabrous. Its autumnal foliage is a most marvellous exhibition of colours from yellow to fire-red. The white flowers bloom simultaneously with the budding of leaves in May. The requirements are similar to those of the previous species.

478. *Pernettya mucronata* (L.f.) Gaud.

It came to Europe from Tierra del Fuego in the southern part of South America. A 0.5–1 m high thickly branched evergreen shrub with spreading base. The shoots are glabrous or slightly pubescent. The dioecious flowers open on the shoots of the preceding year in May–June. The fruit embellishes the branches from September onwards, sometimes till the end of winter. It requires a peaty, acidic soil with good water balance, a humid microclimate, and not infrequently winter covering, too.



Plate 109

479. *Pieris japonica* (Thunb.) D. Don

An evergreen shrub of 2–3 m originating from Japan. Shoots when fresh are brown or reddish brown and glabrous. Flowers open from March till May but in mild winters the white pendulous panicles are sometimes seen. Flowers are produced in abundance. It requires slightly heavier acidic soil rich in nutrients. A humid, half-shaded place is the most suitable environment.

480. *Pieris floribunda* (Pursh) Benth. et Hook f.

It lives in the south-eastern parts of North America, on poor, though fresh sandy soil with a good water balance and free of lime. The upright branches are 2 m long. The evergreen leaves are red when budding. The flowers open in April–May, the panicles—unlike in the former species—are upright. It should be planted in half-shaded or shaded places with soil conditions similar to those prevailing in its native country.

481. *Gaultheria procumbens* L. — Checkerberry, Creeping Wintergreen

An evergreen shrub of 10–15 cm in the eastern forests of North America. Having a spreading base, its short stems form a thick cover over the ground. The flowers bloom in June–August. The attractive fruit giving off a characteristic aromatic smell when

crushed remain on the plant from October till March–April. Requirements: acidic, or neutral poor, sandy soil, humid climate with plenty of precipitation. It can be used well as a substitute for grass in shade.

482. *Gaultheria shallon* Pursh — Shallon, Salal

It is a native of the western parts of North America, from Alaska down to California. A 30–60 cm high, thick evergreen shrub with spreading base. Under favourable conditions it may cover a large surface. Its upright stems are covered by thick, glandular hair. The flowers come out in May–June, the ovoid fruit, 1 cm in diameter, becomes ripe in September–October. Its requirements and utilization are similar to those of the previous species.

483. *Leucothoë fontanesiana* (Steud.) Sleum. (*L. catesbaei* Gray)

A 1–2 m high evergreen shrub with pendulous branches in the south-eastern part of the United States. The young stems are red and somewhat pubescent. Its glossy green leaves turn reddish in autumn and remain on the stems throughout the winter. The flowers bloom in April–May. It is a valuable shrub, very decorative with its large leaves and countless tiny flowers. Requirements are the same as for the *Rhododendron* species: fresh soil free of lime, humid climate and half-shaded place.



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Plate 110

**484. *Arctostaphylos uva-ursi* (L.) A. Gray —
Bearberry**

It is a small evergreen shrub in the arctic belt and the high mountains of the northern hemisphere, with stems giving off roots and covering the ground thickly. The shoots are pubescent only when quite young. In April–May 5–6 mm roundish flowers are produced in short, terminal racemes. The corolla is white with a tinge of pink. The farinose, fleshy fruit ripens from July till September. It lives in fresh or moist acidic soil, in half-shade, and covers the ground as a carpet.

485. *Arbutus unedo* L. — Strawberry-Tree

Its native land extends from the south-western part of Ireland down to the coastal region of the Mediterranean Sea and Asia Minor. It is a large shrub or a 6–10 m high tree with a broad crown; its bark peels off in flakes. The young shoots are covered by glandular hair, the evergreen leaves are glossy dark green. The flowers open from October till November, at the same time when the strawberry-like berries developed from flowers fertilized in the previous year ripen. The simultaneous presence of flower and fruit on the plant is a fascinating sight. Fruit, though edible, is not very tasty. It has no particular demand on soil, but requires a Mediterranean or a mild oceanic climate.

**486. *Vaccinium corymbosum* L. —
Highbush Blueberry, Swamp Blueberry**

It is a deciduous shrub of 1–2 m living on moist, marshy soils in the eastern part of the United States. Stems yellowish green, papillate, either glabrous or slightly pubescent. The autumn foliage shows many shades of orange yellow and scarlet. Flowers open in May. The fruit is pleasantly sour, becoming ripe in July–August. Its economic value is high, since many of its varieties are grown for the fruit. It needs a peaty, acidic soil with high water retention.

487. *Vaccinium corymbosum* L. 'Rubel'

It is planted for its fruit. The large fruit is palatable, and easy to transport because of its hard flesh. The soil requirements are the same as those of the previous species.

**488. *Bruckenthalia spiculifolia*
(Salisb.) Reichenb. — Spike-Heath**

It is a native of South-east Europe, most common in Transylvania; a 10–20 cm high evergreen shrub with a dense habit. The small flowers open on the rigidly upright stems in July–August. It requires a soil free of lime, acidic in reaction, in a humid, half-shaded place.



Plate 111

489. *Erica vagans* L. — Cornish Heath

Its native land extends from Ireland down to Portugal. It is a dwarf, 20–30 cm high, shrub forming a thick carpet with its evergreen foliage. Its yellowish grey stems are glabrous. The flowers open in July and bloom until September. It requires humous or peaty soil free of lime. Owing to its late flowering it is a shrub of special value that should be planted in a humid, half-shaded place.

490. *Erica terminalis* Salisb. — Corsican Heath

A 50–80 cm high evergreen shrub with stiffly upright stems in the southern part of Spain, and in Sardinia and Corsica. The stems are white pubescent. The flowers open from July till September. It

requires a well drained, warm and moderately dry soil. Different from its congeners by its tolerance to lime.

491. *Erica carnea* L. — Spring Heath

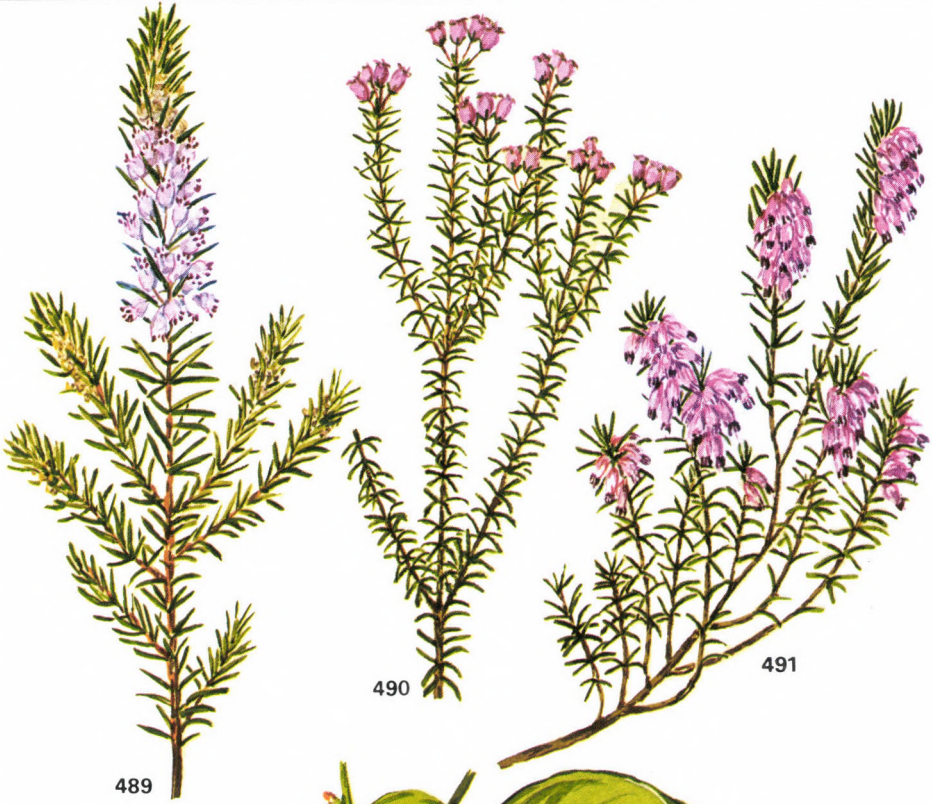
It is a native of the eastern and central parts of the Alps. An evergreen dwarf shrub of 20–30 cm with prostrate stems and upright shoots. Flower buds appear already in autumn. Flowers open in February–March depending on the weather, and in mild winters even in December. A large number of varieties are cultivated and kept also as a pot plant. It requires a loose, humous soil and a humid microclimate; develops well even in calcareous soil. Best planted in rock-gardens at a half-shaded place, under the shelter. Much liked for its early flowering, ringing in the arrival of spring.

Ebenaceae — Ebony Family

492. *Diospyros virginiana* L. — Common Persimmon

A native of the eastern part of North America; a 10–15 m high, deciduous tree with a roundish head, occasionally a larger shrub. Its spreading branches are somewhat pendulous, the young

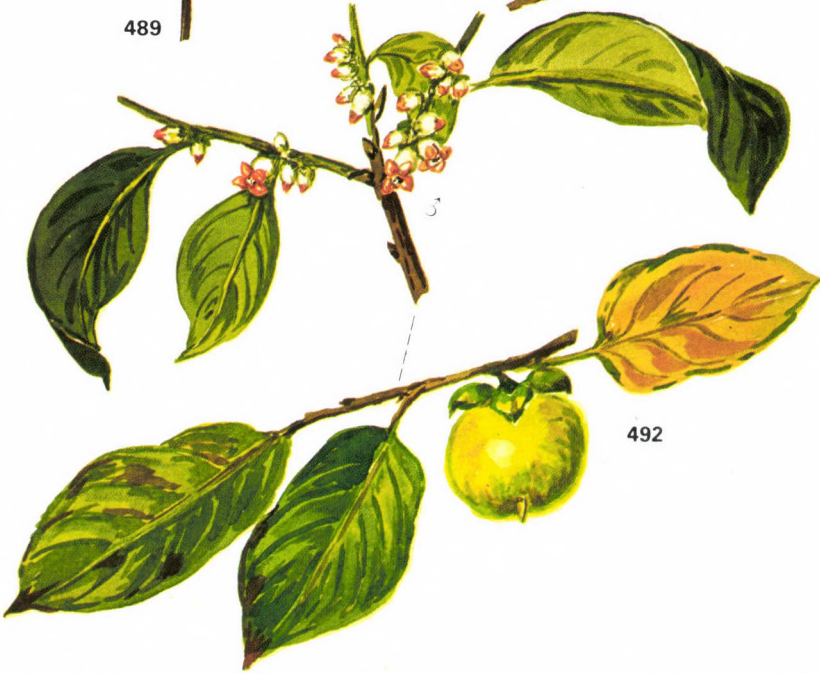
shoots are pubescent. Its shining, dark green leaves are glabrous on the lower surface. Monoecious, its one-sexed flowers open in June, the sweetish fruit becomes ripe in October–November. It should be planted in a loose, deep-layered soil rich in nutrients in a sunny, warm place. When young sensitive to frosts, later hardy.



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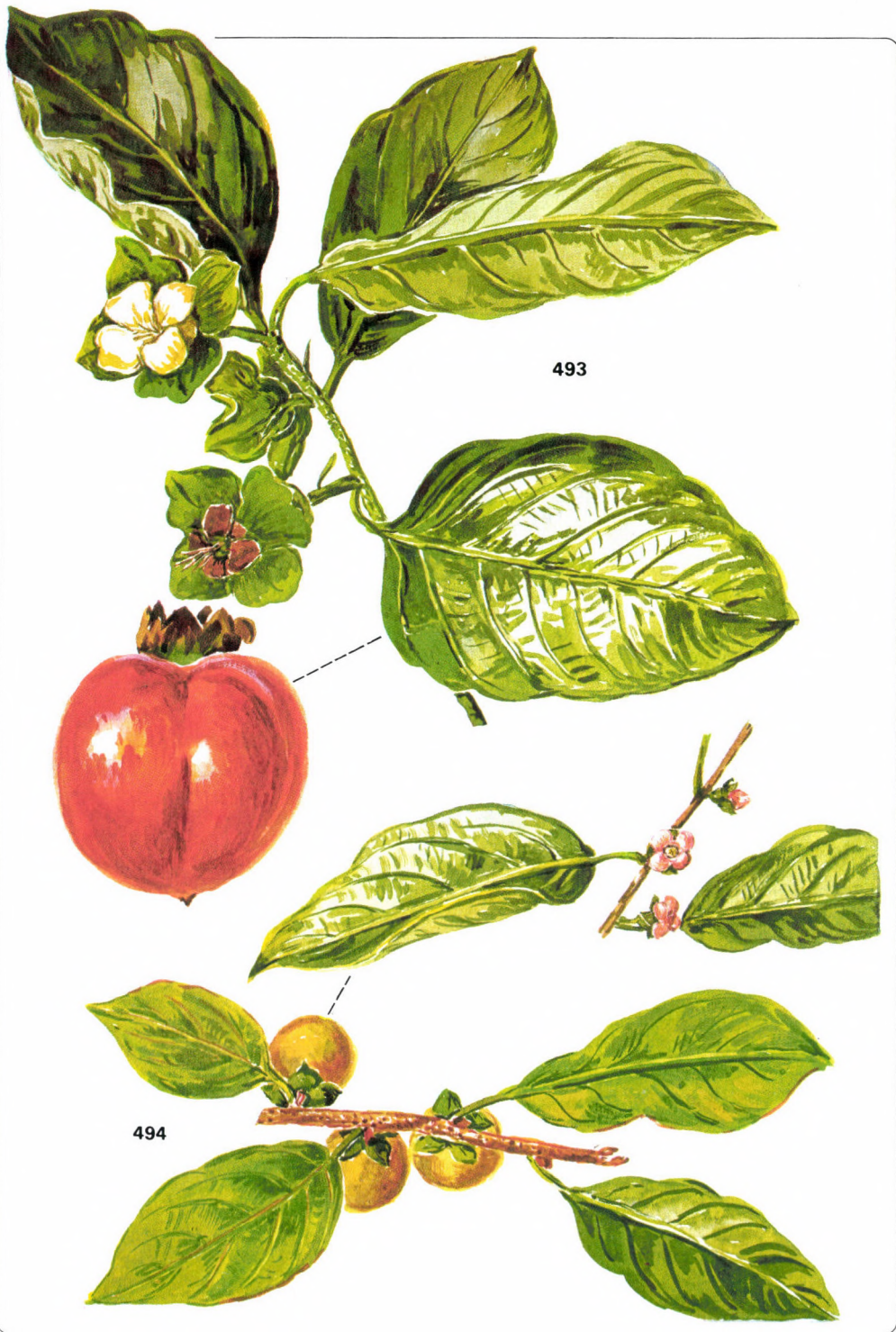
Plate 112

**493. *Diospyros kaki* L.f. —
Kaki, Japanese Persimmon**

It is a native of the Far East, a tree of 8–12 m with a round crown. Both the stems and shoots are pubescent. Monoecious, the one-sexed flowers open in June. The 4–8 cm large, ovoid or somewhat flattened spherical fruit, much resembling a tomato both in shape and colour becomes ripe in August–November. At the stem it is partly covered by the sepals. Owing to its very palatable fruit in the warmer regions of the Mediterranean countries and Asia it is planted as a fruit-tree. The cultivated variety of this species produces much larger fruit than the wild ones. In Central Europe rarely planted since the fruit becomes ripe only in long warm autumns, further because it is frost-sensitive when young.

**494. *Diospyros lotus* L. —
Date-Plum**

A 10–15 m high, deciduous tree, or large shrub with a broad crown from the Far East. Its young stems are brown pubescent. The large, leathery leaves are pubescent first on both sides, later only along the veins of the lower surface. The flowers are out in June. The spherical fruit becomes ripe in October–November, but has no good taste. Like the former species it is positively thermo- and photophilous. It requires a loose, not dry soil rich in nutrients. Frost-sensitive when young, later only the tip of the one-year shoot suffers from frost-bite.



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Plate 113

Styracaceae — Storax Family

**495. *Halesia carolina* L. —
Carolina Snowdrop-Tree, Silver-Bell**

It is a 3–4 m high shrub or a small tree in forests with moist soil in North America, with a crown of the shape of a flattened sphere. The leaves turn yellow in autumn. It blossoms before leafing in April–May, the pendulous, white campanulate flowers are most attractive on the thin branches. The elongate winged fruit remains on the branches after the leaves have fallen. A very attractive ornamental shrub surviving only in fresh soil without lime. A free-standing plant for a place full of light and protected from wind.

**496. *Halesia monticola* (Rehd.) Sarg. —
Mountain Snowdrop-Tree, Silver-Bell**

In the north-eastern part of North America, its native land, it is a 20–30 m high deciduous tree,

while in Europe mostly a large shrub only. Its autumn foliage is yellow. Flowers opening in May are larger than those of the previous species, and the four-winged fruit is also longer. Its ornamental value and requirements are similar to those of the previous species.

**497. *Styrax japonica* Sieb. et Zucc. —
Snowbell, Storax**

It is a large, deciduous shrub or small tree in China and Japan. Branches spreading. The young shoots and leaves are first grey stellate-haired, later glabrous. The pendulous, fragrant flowers open in June–July. The fruit is also of ornamental value. It requires a fresh soil rich in nutrients in a half-shaded place. When in bloom it is most attractive.



Plate 114

**498. *Pterostyrax hispida* Sieb. et Zucc. —
Epaulette-Tree**

In its native countries, China and Japan, it is a 10–15 m high tree or a tall, loosely branched shrub. The shoots are yellowish green, poorly pubescent. A characteristic feature of the species is that its leaf-

veins continue in short spikes at the edge of the leaf. The white and fragrant flowers clustered in pendulous panicles open in June. Fruit with 10 small ribs. It requires a warm soil rich in nutrients, while increasingly frost-sensitive in a moist soil. When in blossom a very attractive plant.

Oleaceae — Olive Family

499. *Fontanesia fortunei* Carr.

A 3–6 m high deciduous shrub, a native of China. The thin and glabrous opposite shoots tend upwards. The lanceolate leaves remain green until late in autumn. The small, white or greenish white, fragrant flowers open in short panicles in May–June. A shrub modest in requirements, thriving well in any but moist soil both in the sun or in half-shade. It is of rapid growth.

500. *Fontanesia phillyreoides* Labill.

A shrub of 2–3 m, a native of Asia Minor. Stems branching more densely and leaves smaller than in the previous species. Other characteristics the same as above.



Plate 115

501. *Fraxinus ornus* L. — Flowering Ash

Native of South Europe and Asia Minor, frequent in dry, warm and rocky hill-sides and sunny hill-tops. Usually a small tree of 6–12 m, but under unfavourable conditions: in poor, dry soil sometimes only a small shrub. The crown later becomes flattened, rather umbellate. The pubescent, spherical buds are grey. The colour of the leaves is dark green turning reddish brown or purplish in autumn. The fragrant flowers clustered in rich panicles open after leafing in May. Much liked for its drought-resistance and beautiful flowers. Thriving even under extremely dry conditions, it is most suitable for afforestation in karstic areas on sunny, stony slopes. Tolerant to polluted air, and with its fine crown a valuable tree for avenues.

502. *Fraxinus excelsior* L. — European Ash

A 30–40 m high tree, with straight trunk and high dome-shaped head native in Europe and the western part of Asia. The greenish grey, glabrous branchlets end in black buds. The leaves are damaged by the foul-smelling ash fly. The foliage turns yellow only in long autumns; mostly falls green. Insignificant flowers without perianth opening before leaf-budding. It requires much light. In fresh, good soil grows rapidly. A beautiful park tree.



Plate 116

503. *Fraxinus excelsior* L. 'Diversifolia'

It was discovered in England in 1789. The leaves are simple, rarely in threes. The crown of this variety is smaller and denser. Frequently planted as an ornamental tree in parks.

504. *Fraxinus pennsylvanica* Marsh. var. *lanceolata* (Borkh.) Sarg. — Red Ash

A native of the central and eastern parts of the United States, where it is a 15–20 m high, upright deciduous tree with a pyramidal crown. The bark is brown and much fissured. The young shoots are glabrous, the buds brown. The flower is inconspicuous, the wing of the fruit very narrow. It

requires a soil rich in nutrients with a good water balance, since in poor soil and a dry place it soon stops growing. A photophilous plant. Its wood is highly suitable to make tools and sports implements.

505. *Forestiera acuminata* (Michx.) Poir.

It is a 1.5–2.5 m high, deciduous shrub, occasionally a small tree, a native of North America, where it lives in forests with moist, marshy soil. Its opposite leaves are mat green. Tiny flowers without perianth open in April–May. The 1–1.5 cm large purplish fruit becomes ripe in June–July. It needs a soil well supplied with water. A botanical rarity rather than an ornamental shrub.

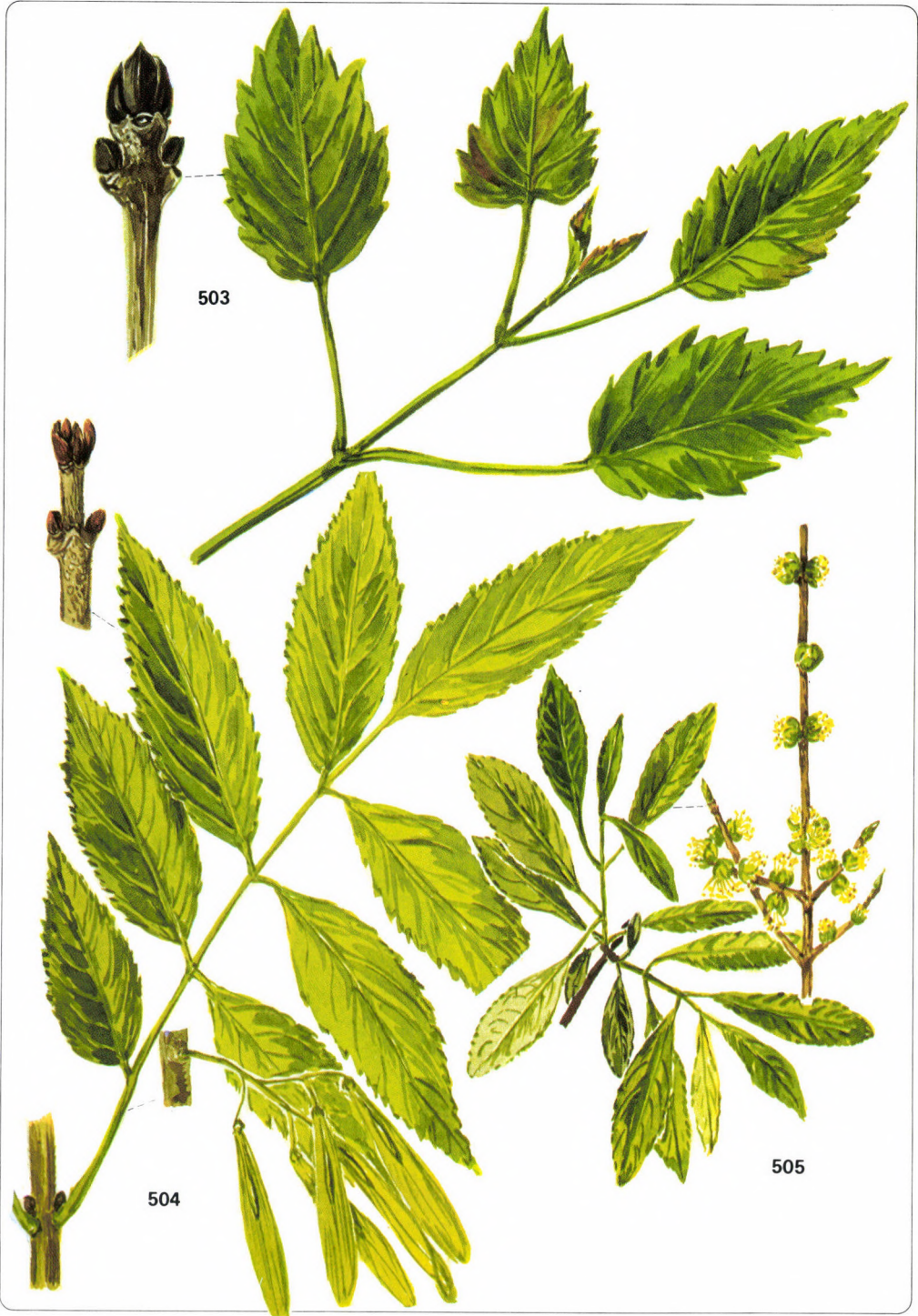


Plate 117

**506. *Forsythia* × *intermedia* Zab. —
Golden-Bell**

It is the hybrid of *F. suspensa* and *F. viridissima*, a deciduous shrub of 2–3 m, whose upright branches later become pendulous. The greenish yellow branches are speckled with lenticels. The yellow flowers come out early in spring, before leafing, and cover the entire shrub. A much liked shrub both in gardens and parks; several colour varieties are known, which differ from one another mainly in the colour and size of the flower. In a sunny, warm place it brings its flowers early. It has no particular demand on soil, develops well in any better soil.

**507. *Forsythia suspensa* (Thunb.) Vahl
var. *sieboldii* Zab.**

A 2–2.5 m high shrub with thin, arcuate stems brought to Europe from Japanese gardens. Stems

touching the soil often get roots. The flowers open in March–April, usually singly and in a small number. The recent cultivated forms considerably surpass it in flower production. It develops well even in half-shade.

508. *Forsythia viridissima* Lindl.

A shrub of 2–3 m, originating from China. The leaves on the upright, quadrate stems turn purplish in autumn. The greenish yellow flowers open in April, the latest of all *Forsythia*. It is planted comparatively rarely since there are species producing much greater quantities of flowers.

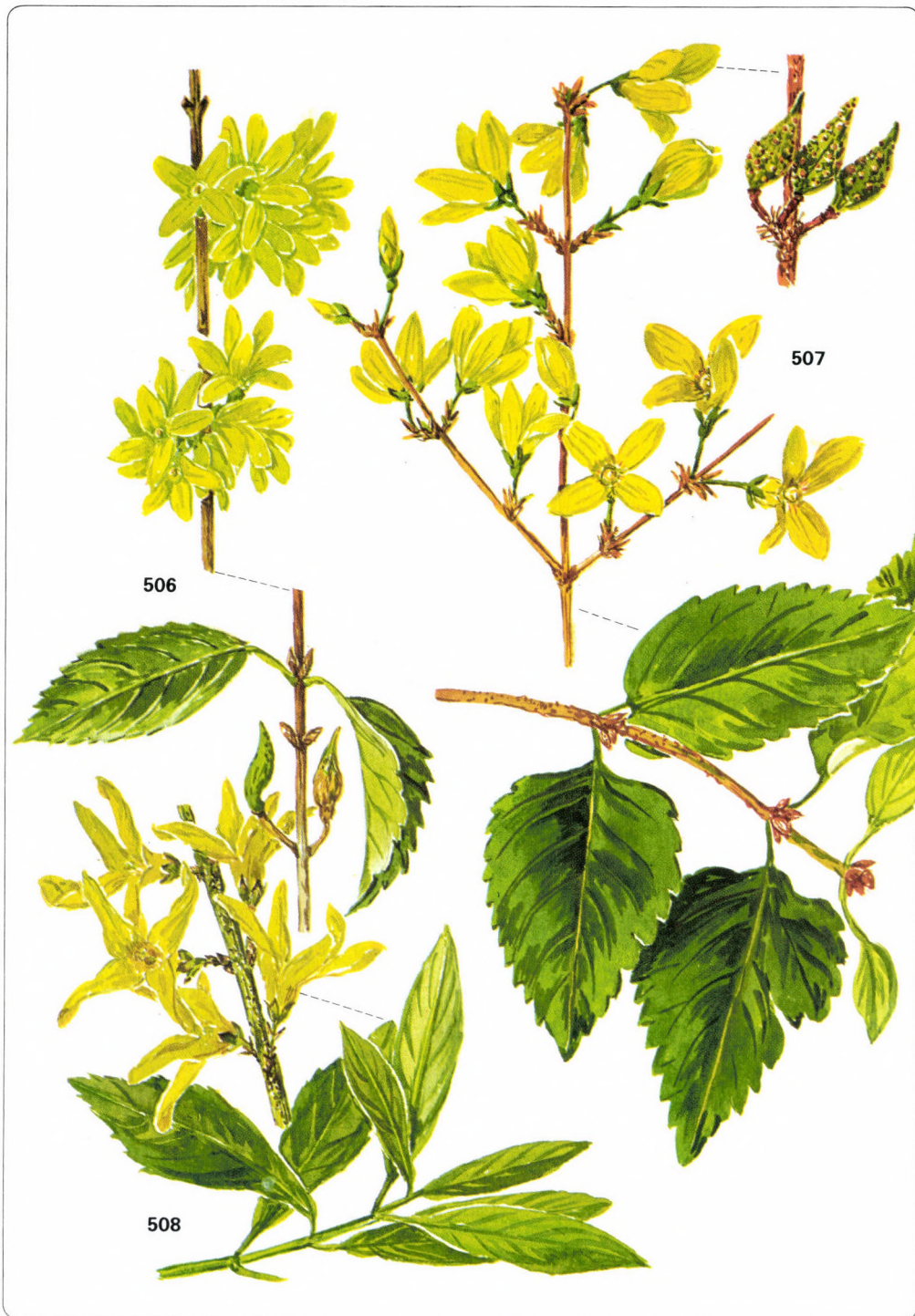


Plate 118

509. *Syringa vulgaris* L. — Common Lilac

A native of South-eastern Europe, but common all over Europe. A 3–5 m high shrub spreading laterally with tillers. Its fragrant flowers open in April–May. Not very particular about soil, thriving well almost anywhere. Its improved varieties on the other hand, require a fresh soil rich in nutrients, because beautiful and large flowers are produced only under such conditions.

510. *Syringa reflexa* Schneid. — Nodding Lilac

A native of Central China; a 3–4 m high, broad, deciduous shrub. Its brownish grey stems and greenish shoots are covered with light coloured

lenticels. The buds are strikingly red. The dangling inflorescence is produced at the tips of the current year's shoot in June, well after the flowering period of the common garden lilac, hence its special value. It requires a fresh, or somewhat moist, neutral or acidic soil rich in nutrients, in calcareous soil fewer flowers are produced.

511. *Syringa tigerstedtii* H. Sm.

It was imported from West China to Europe at the beginning of this century. A lilac blooming at the beginning of summer. The flowers appear at the apexes of the thin shoots in loose panicles giving off a wonderful fragrance. In a sufficiently moist, good quality soil at a sunny place it produces plenty of flowers.

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Plate 119

512. *Syringa amurensis* Rupr. — Amur Lilac

It is a large, 3–5 m high shrub, occasionally a small tree in the northern part of China, in the region of the River Amur. When its flowers open in June not many of us would think that it belongs to the genus *Syringa*, since its flowers are scentless, and remind one more of privet than of lilac, except that the inflorescence is much larger. The smoothness of the bark recalls into mind a cherry-tree. A species of vigorous growth, which in sunny places will definitely attract attention in gardens and parks.

513. *Syringa wolfii* Schneid.

A 3–5 m high shrub, native of North China and Korea. The fragrant, pale mauve flowers open at the tips of the leaved stems in June. Owing to its late flowering period it is a valuable ornamental shrub.

514. *Syringa laciniata* Mill.

It is a 2 m high, deciduous shrub, which came to Europe from the north-eastern part of China. The branches tend upwards, then bend. One of its peculiarities is that the spring leaves are pinnate, while those on the summer shoots entire. It is

mostly planted for its attractive leaves, because the fragrant, pale mauve flowers opening in May into 5–8 cm upright panicles are not so remarkable. It develops quite well in almost any kind of soil and also in half-shade.

515. *Syringa josikaea* Jacq.f. — Hungarian Lilac

It lives in the humid climate of valleys in the Bihar Mts., the East Carpathians and Galicia, on fresh or moist soil, frequently in half-shaded places. A 3–4 m high shrub with rigid stems growing straight upwards. The leaves are dark green on the upper and bluish or whitish green on the lower surface, broadest in the middle. The weakly fragrant flowers open on the young shoots in May–June. Owing to its late flowering period and beautiful foliage a valuable ornamental shrub.

516. *Syringa julianae* Schneid.

A 1.5–2 m high shrub with stems standing apart, from West China. Its thin shoots are densely pubescent. The strongly fragrant flowers form short panicles in May–June. The 1 cm long capsulate, rather pointed fruit is papillate outside.

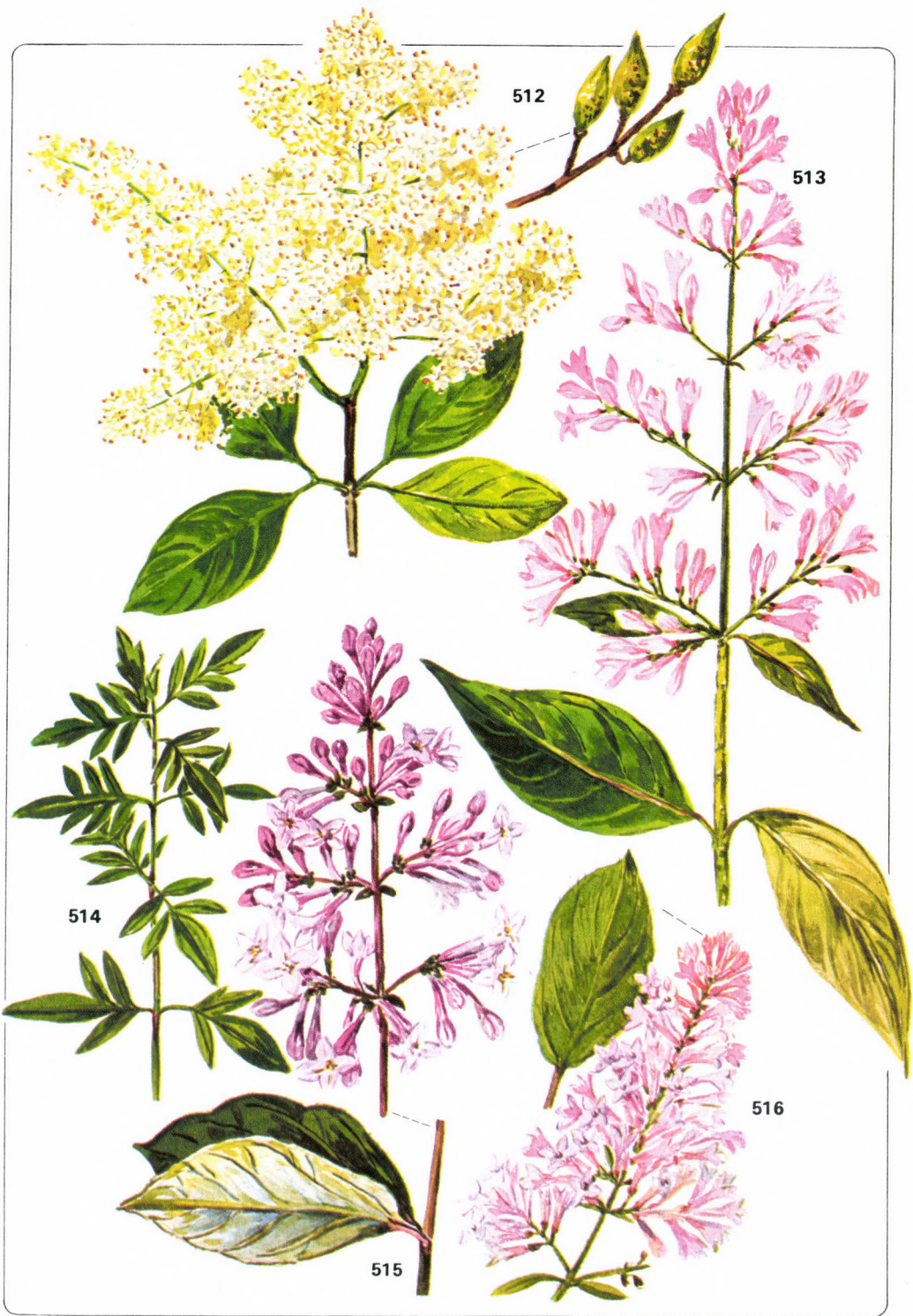


Plate 120

517. *Ligustrum ibota* Sieb. et Zucc.

A 1–2 m high, densely branched, large, deciduous shrub from Japan. The small flowers open in short panicles in June. The fruit becomes ripe in September–October, remaining for a while on the branches after defoliation. It has no particular demand. A plant of low ornamental value.

**518. *Ligustrum ovalifolium* Hassk.
'Aureum' —
Oval-leaved Privet**

A shrub of 2 m, whose leaves are yellow mottled, occasionally entirely yellow. Its beautiful colour is very attractive especially with other coloured shrubs planted nearby.

**519. *Chionanthus virginicus* L. —
Fringe-Tree**

Native of the eastern part of the United States, where it is a large shrub, or sometimes even a 6–8 m high tree. The fragrant, white flowers clustered in loose panicles open in June. It is a dioecious plant, and since the staminate flowers are larger and more

beautiful, plants with male flowers should be chosen whenever possible. Its glabrous dark green leaves turn yellow in autumn. A most attractive ornamental shrub, though not widespread enough. It develops quite well in a sunny place, in fresh rich soil.

**520. *Ligustrum vulgare* L. 'Auriflorum' —
Yellow Common Privet**

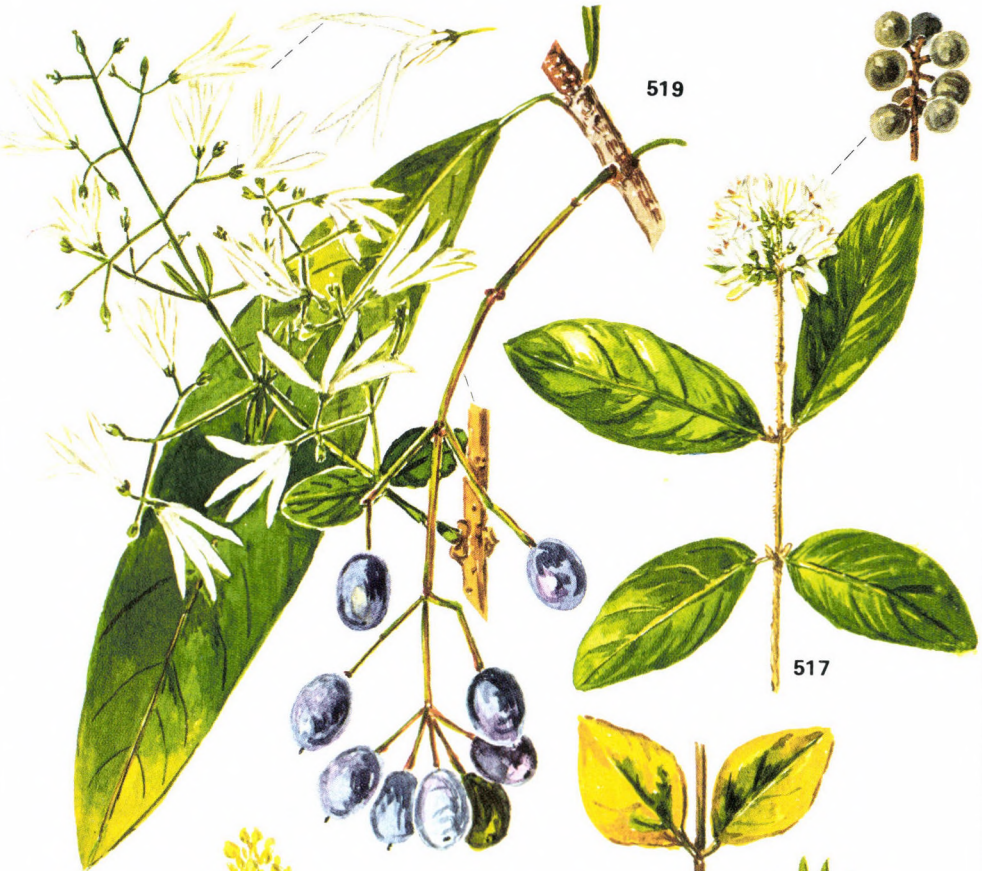
It is a 3–4 m high, deciduous shrub, whose flowers are yellower than those of the type species.

521. *Ligustrum vulgare* L. 'Chlorocarpum'

A shrub of vigorous growth with stems tending upwards. Shoots and buds are yellower than in the type species, and the fruit is entirely yellow. The coloured berries are very attractive on the leafless plant.

522. *Ligustrum vulgare* L. 'Aureum'

It is a shrub of 1.5–2 m with leaves of blurred yellow colour from budding till falling. Its ornamental value is low, in colour effect the species under No. 519 is much superior.



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Plate 121

523. *Jasminum fruticans* L. — Wild Jasmine

A 1.5–3 m high Mediterranean evergreen or semi-evergreen shrub with a loose habit. The thin branches and stems are green, the leaves leathery. The scentless, yellow flowers bloom from June till August. The fruit is a black berry. It requires a sunny, warm, somewhat sheltered place with moderately dry soil.

524. *Jasminum nudiflorum* Lindl. — Winter Jasmine

A native of the northern parts of China, appearing in the European gardens in the middle of the last century. It is a 2–3 m high plant; the angulate, glabrous, green stems and branches are bent. The opposite leaves are shining green. The yellow flowers open on the side of the stems at the end of winter or early in spring, hence its ornamental value. It requires a sunny, warm place where it produces a profusion of flowers; frosty places should be avoided.

525. *Jasminum humile* L.

A native plant of West China, where it is a 1–1.5 m high evergreen shrub, while in Europe mostly a semi-evergreen only. Its glabrous, angular, green stems are poorly branched. Its thick leaves remain evergreen only in shaded, protected places, in the sun they fall by the end of winter. Its fragrant, yellow flowers open in June–July. Requirements are the same as for *J. fruticans*.

526. *Jasminum officinale* L. — Common White Jasmine, Poet's Jessamine

Its native land spreads from Persia to China. It is an evergreen or semi-evergreen shrub which with its thin, green stems when supported may climb up to 8–10 m. Its very pleasant, odorous flowers open from June till October. Unfortunately, it is frost-sensitive and needs therefore protection in winter. It requires a warm, loose soil in a sheltered, sunny spot.



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Plate 122

Asclepiadaceae — Milkweed Family

527. *Periploca graeca* L. — Greek Silk-Vine

A native of South Europe and Asia Minor; a shrub growing very rapidly and climbing with its twisting stems 10–15 m high. Both the stems and leaves contain poisonous milk latex. The glossy, dark green leaves retain their colour until late in autumn, when they fall. The fragrant flowers bloom in July–August. It requires a soil well supplied with minerals; a sunny, warm place where it rapidly climbs over fences, dry trees and pergolas. We

should not allow it to climb live trees since its great weight and dense foliage damage its support.

528. *Periploca sepium* Bge. — Chinese Silk-Vine

It is a native of North China, a creeping shrub like the previous species, but its leaves are narrower and turn yellow in autumn. Its flowering period is somewhat earlier, in June–July and the flowers are smaller.

Loganiaceae — Logania Family

529. *Buddleia alternifolia* Maxim.

It is a 3–4 m high, deciduous shrub, a native of the north-western parts of China. Its long branches and stems are arcuate. The leaves are mat dark green on the upper, and whitish pubescent on the lower surface; leaves alternating unlike most *Buddleia*. Its fragrant, small flowers come out in abundance on the side of the stems at the beginning of June. It requires a moderately dry soil rich in nutrients. In a sunny place it grows rapidly producing long shoots with plenty of flowers. The flowering time lasts 10–14 days. One of the most beautiful shrubs with blue flowers.

530. *Buddleia albiflora* Hemsl.

It is a 2–3 m high deciduous shrub living in Central and West China. Its lanceolate leaves are whitish pubescent beneath. The flowers are out from June till September. As an ornamental plant its value is low, since several species and varieties of similar habit have more beautiful flowers. It requires a sunny place with a soil rich in mineral resources.



Plate 123

**531. *Buddleia davidii* Franch. —
Orange-eye, Butterfly-Bush
(*B. variabilis* Hemsl.)**

A native of China, much liked in Europe too. It is a shrub of 2–4 m. Its crosswise opposite leaves are dark green above and greyish or whitish pubescent beneath. It has small, fragrant flowers opening from July till September. The flowers of the type are

violet, while in the varieties white, blue or purple. Because of their rich nectar content the flowering shrub is frequently visited by butterflies, hence its popular name. In a fertile soil, at a sunny place it produces long panicles throughout the summer. In severe winters occasionally dies back to the base, but the next year's flower production is not affected, since the flowers come out on the new shoots.

Verbenaceae — Verbena Family

**532. *Caryopteris incana* (Houtt.) Miq. —
Bluebeard**

It is a native of Japan and the eastern part of China; a 0.5–1 m high, deciduous shrub, which mostly behaves like a sub-shrub in the colder part of Central Europe, dying back in winter to the base. Almost the entire plant is greyish white pubescent, including the shoots, the lower surface of the leaves and the peduncle of cymes. The flowers appear at the upper part of the stems in August–September. It requires a water-permeable, calcareous, moderately dry soil in a sunny and warm place. A valuable plant owing to its late flowering period. Perennial beds or open grass surfaces are its proper places.

**533. *Vitex agnus-castus* L. —
Chaste-Tree, Hemp-Tree,
Monk's Pepper-Tree**

An aromatic, deciduous shrub, a native of South Europe and West Asia. It reaches a height of 2–3 m. The quadrangular stems are tomentose. The fragrant flowers open from August till October. The spherical fruit is 3–4 mm in diameter, a four-celled stone. Like the previous species it is planted mainly for its late flowering. The characteristically shaped, fragrant leaves represent a special value. Requirements are the same as for *Caryopteris*.



Plate 124

**534. *Clerodendron trichotomum* Thunb. —
Glorybower**

A shrub of 3–5 m originating from the Far East, where it is a small tree. Stems when young densely tomentose, the large leaves when crushed emit a pleasant smell. Flowers, likewise fragrant, open at the end of summer in August–September. The fruit, a berry ripening in September–October is first blue, later black. A positively thermophilous plant surviving only on moderately dry soil, in sheltered, sunny places. Under colder climates usually dies back to the base in winter, unless protected from frost. In such places we cannot expect it to bring flowers and develop its interesting fruit.

**535. *Vitex negundo* L.
'Heterophylla'**

A 3–5 m high, sparsely branched deciduous shrub in Mongolia, China and Korea. Its beautifully cut leaves emit a characteristic smell. The flowers open in August–September, when ornamental shrubs are hardly found in blossom. It requires a dry, warm soil, and a sunny place; in moist soil becomes frost-sensitive.

Solanaceae — Nightshade Family

**536. *Lycium barbarum* L.
var. *dioszegii* (Pérenes) Soó**

Habit and characteristics similar to those of the previous plant, but the fruit is smaller and globose. A variety living in Hungary.

**537. *Lycium barbarum* L.
Common Matrimony-Vine, Box-Thorn
(*L. halimifolium* Mill.)**

A native of South-eastern Europe and Asia Minor; a 2–3 m high, deciduous shrub with upright, later bent, thin, yellowish or greyish stems armed with spines. It blossoms from June till August, and from the purplish red flowers longish, red drupes develop which ripen from August to October and remain on the branches for some time after the falling of the

leaves. Extremely modest in requirements though preferring a loose, warm, calcareous soil and a sunny place. It grows rapidly. A plant particularly suitable to cover detrited grounds and banks, since it spreads very fast by its tillers.

**538. *Lycium chinense* Mill. —
Chinese Matrimony-Vine,
Box-Thorn**

A 1–3 m high shrub in the northern part of China. Its thin, spineless, yellowish grey stems are pendulous. The vivid green leaves do not fall until late in autumn. The flowers are out from June till September, decorative fruit ripens from August till November. It requires much light; a thermophilous and drought-resistant species whose main value lies in its branches with its colourful fruit.



Plate 125

Boraginaceae — Borago Family

539. *Ehretia thyrsoflora* (Sieb. et Zucc.) Nakai

A deciduous tree of 10–15 m in the Far East. Its thick, grey shoots are glabrous, the large, shining green leaves thick and leathery. The flowers open in July–August, the fruit ripens from September. A thermophilous plant which, when young, dies back to the base below zero degree centigrade, and even later only its woody branches overwinter. It should be planted in moderately dry soil at a sunny, sheltered place. A botanically interesting plant,

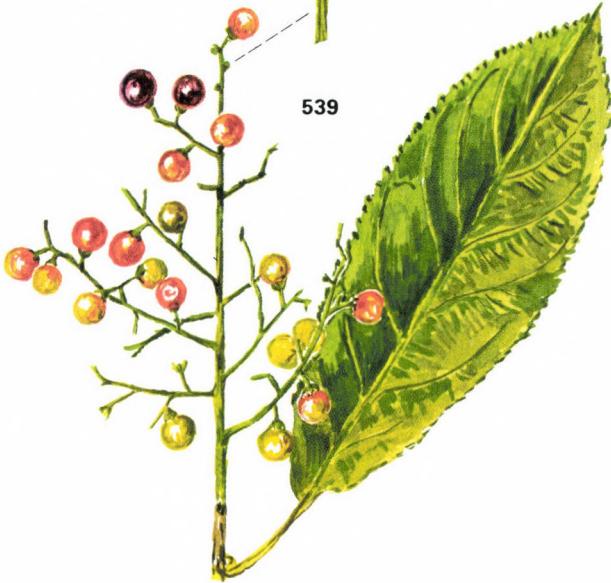
since among the woody members of the *Boraginaceae* family it is one of the few species withstanding cold weather.

540. *Ehretia dicksonii* Hance

A 5–10 m high tree from China. Its shoots and thick leaves are covered with rigid setae. Its fragrant flowers come out in August. The fruit ripens in September–October. Requirements as above.



540



539



Plate 126

541. Callicarpa bodinieri Lév. —
Beauty-Berry
(Verbenaceae — Verbena Family)

It is a 1–2 m high, deciduous shrub originating from Central and West China. Its young shoots are hairy, the foliage turns yellow or purple in autumn. The insignificant flowers open in July–August, the fruit ripens in September–October. It should be planted

in moderately dry, warm soil in the sun, since in cold nooks or in severe winters may die back to the base. A thermo- and photophilous species. Its main ornamental value lies in the mauve-coloured bead-like fruit remaining on the branches after the falling of the leaves; it is frequently used in flower decorations. It should be planted in groups as cross-pollination promotes fruit setting.

Bignoniaceae — Bignonia Family

542. Catalpa bignonioides Walt. —
Common Catalpa, India-Bean

A native of the southern part of the United States; a 10–15 m, high, deciduous tree with a large, roundish crown, a short trunk, and thick branches. The large leaves, reddish on budding, emit when crushed a rather unpleasant smell. The lovely, big

panicles appear in June–July. Its thin, cigar-shaped fruit remains on the branches throughout the winter. It requires a medium heavy, fresh soil rich in nutrients. A photophilous and thermophilous plant; the immature shoot tips die back in winter. It should not be placed in windy places, since the stems and branches may break. When in blossom a most attractive tree.



Plate 127

- 543. *Paulownia tomentosa*** (Thunb.) Steud. —
Paulownia
(*P. imperialis* Sieb. et Zucc.)
(Scrophulariaceae — Figwort Family)

It is a native of China; a 10–20 m high deciduous tree with a loose crown and outspread branches. The shoots are thick and hollow inside, when young densely covered by soft hair. The leaves are very large, on the longer shoots may even exceed 40–50 cm. The panicles are formed in autumn, thus, in severe winters may suffer frost-bite. The fragrant flowers bloom before leaf-budding in April–May. It requires a water-permeable, but fresh soil rich in nutrients, in a sunny, warm place. Particularly frost-sensitive when young. A species of fast growth, even the frost-bitten specimens give off shoots from the base that reach a length of 2–3 m in one year. When in blossom it is one of the most beautiful ornamental trees.

- 544. *Campsis grandiflora*** (Thunb.)
Schumann —
Chinese Trumpet-Creeper

A deciduous shrub of the Far East, climbing 4–6 m high. Shoots bearing only a few aerial roots. The

leaves are composed of 7–9 leaflets with a glabrous lower surface. Its large flowers bloom in August–September. A very valuable creeping shrub which should be planted in warm sunny spot with a soil rich in nutrients. Most suitable to train it on pergolas, walls of houses facing south, etc. Since it has but few aerial roots a suitable support is needed to help it in climbing.

- 545. *Hebe armstrongii*** (T. Kirk) Cock. et Allan
(Scrophulariaceae — Figwort Family)

It is a 30–50 cm high, evergreen shrub with a fan-like branching system; a native of New Zealand. The white flowers are clustered in terminal groups open in July–August. In the northern regions of Central Europe, on fresh soils free of lime develops well, but in southern Central Europe these conditions are difficult to provide. In half-shade more sensitive, and not so decorative.



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Plate 128

546. *Eccremocarpus scaber* Ruiz et Pav.

A 2–3 m high, evergreen creeper from Chile. The stems are longitudinally grooved. It produces flowers from the middle of summer till the first frosts; the seeds are enveloped in a broad, flat wing sitting in capsules. Being frost-sensitive, requires covering for winter. When carefully protected its base survives even in severe winters, and like all perennials sprouts again in spring. Since it may well be propagated from seed and soon produces flowers may be grown as an annual plant. A photophilous and thermophilous shrub, best planted in fertile soil.

547. *Catalpa ovata* G. Don

A native of China; a 5–10 m high deciduous tree with a broad crown. Its large, mat, dark green leaves are

sometimes 3–5-lobed. The large flowers clustered in terminal panicles open in July. Its long, slightly curved, cylindrical capsule includes numerous flat seeds, tomentose at both ends. It requires a well drained, but not too dry soil rich in nutrients, a warm, sunny place where its shoots can reach maturity. When its requirements are fulfilled it grows rapidly and develops into a very decorative park or street tree. Its branches are easily broken.

548. *Catalpa* × *erubescens* Carr. 'Purpurea'

It is a hybrid derived by crossing *C. bignonioides* and *C. ovata*. This variety has smaller leaves than the parents, purplish or blackish red when fresh, but later turning green. The flowers are white. A plant definitely for a sunny spot.

Rubiaceae — Madder Family

549. *Cephalanthus occidentalis* L. — Button-Bush

A 1–2 m high shrub, which in North America, its native country, sometimes develops into a tree of 3–5 m. Its glossy green leaves are opposite, or form

whorls of three. The small flowers arranged in globose heads bloom in July–August. In Europe it is a species rarely encountered in parks, although its interesting inflorescence would deserve greater attention. It should be placed on banks of water-courses, or in moist soil at a sunny place.

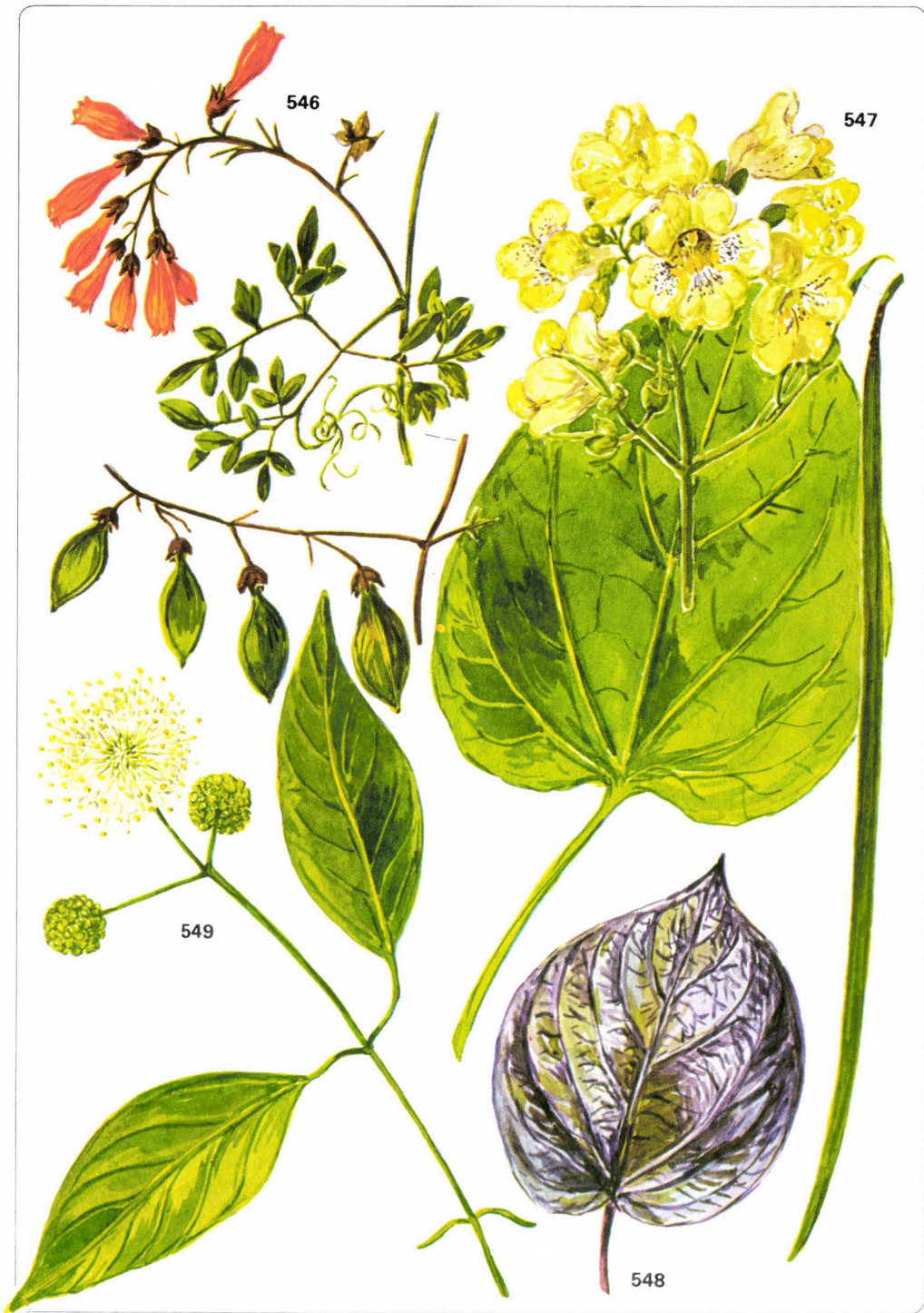


Plate 129

Caprifoliaceae — Honeysuckle Family

550. *Sambucus racemosa* L. — European Red Elder

It is a native of Europe and West Asia; a 2–3 m high, deciduous shrub with thick, light brown or greyish stems. The flowers either in compact racemes or large panicles open in April–May. Its red fruit becomes ripe in June–July. It should be planted in half-shaded or entirely shaded spots with a humid climate and a rich soil. Owing to its beautiful flowers and highly decorative fruit frequently encountered in parks and gardens.

551. *Viburnum lantana* L. — Wayfaring-Tree

It is at home in Europe, Asia Minor and West Asia. A 3–4 m high shrub with stellate hairs on the stems, and wrinkled leaves that turn purplish red in autumn. The white flowers bloom in May–June; sometimes a second flowering is produced. Fruit fleshy, berry-like and red when unripe, later turning black. It requires a calcareous, warm soil, and a sunny place, though survives in half-shade. A drought-resistant shrub with very moderate requirements.

552. *Viburnum opulus* L. — European Cranberry-Bush

Its native land spreads from North Africa through Europe to North Asia. A 3–4 m high, deciduous shrub with glabrous, shining greyish shoots. The leaves are 3–5-lobed turning red in autumn. Its white flowers grouped in umbellate cymes open in May–June; at the edges of the cymes the larger sterile flowers are found. The fruit is fleshy and red remaining on the branches long after the falling of the leaves. It requires a soil with good water balance, either in the sun or in the shade.

553. *Viburnum opulus* L. 'Roseum' — Common Snowball, Guelder-Rose (*V.o.* var. *sterile* DC.)

Its habit and leaves are the same as in the previous plant, but its spherical inflorescence is composed of sterile flowers only, whose colour is first white, later purplish pink. Requirements are the same as those of the original species.

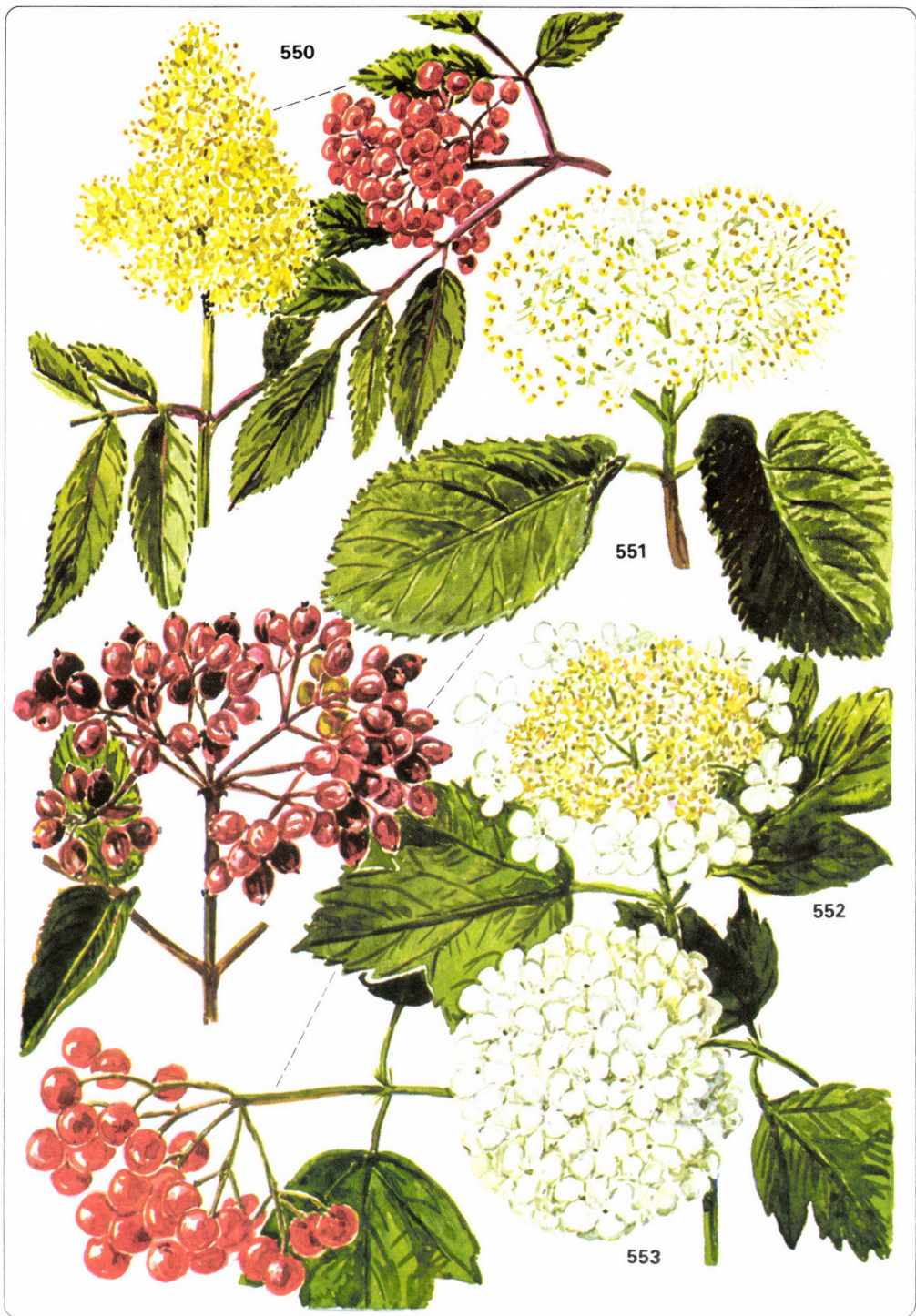


Plate 130

**554. *Sambucus nigra* L. 'Laciniata' —
Dissected-leaved European Elder**

A 2–4 m high shrub with thick branches. The leaves are odd-pinnate and regularly, deeply dissected. Flowers are in flat cymes, fragrant and yellowish white, opening in June–July. Owing to the beautifully cut leaves it is frequently planted. It can be placed even in deep shade.

555. *Sambucus nigra* L. 'Luteovariegata'

Its habit is the same as that of the previous plant, but its budding leaves are golden yellow, later turning light yellow mottled. Very attractive in the garden, at a sunny place.

**556. *Viburnum lentago* L. —
Sheep-Berry, Nanny-Berry**

A native of North America, where it develops into a large shrub or smaller tree. Stems and branches are thin; a narrow wing runs along each of the two sides of the petiole. The autumn foliage is red. Flowers come out in May–June, the pruinose bluish black fruit ripens in September–October. It requires fresh soil rich in nutrients, a humid climate and half-shade. Frequently planted in gardens for its beautiful leaves. Most useful in covering bare spots.

557. *Viburnum wrightii* Miq.

A Japanese shrub of 2–3 m. The leaves turn dark brownish red before falling in autumn. Its corymbose inflorescence comes out in May–June. A shrub mostly planted for its shining red fruit. It requires a soil rich in nutrients at a sunny place.

**558. *Viburnum plicatum* Miq. —
Japanese Snowball**

Native in China and Japan; a 2–3 m high, almost spherical shrub with horizontally spreading lateral branches. The dark green leaves turn red or violet-brown in autumn. The white flowers grouped in a globular head of 6–8 cm in diameter open in May. Its decorative, snowball-like fruit remains on the branches for a long time. It requires good soil and humid climate. One of the most beautiful snowball-trees.

559. *Viburnum prunifolium* L. — Black-Haw

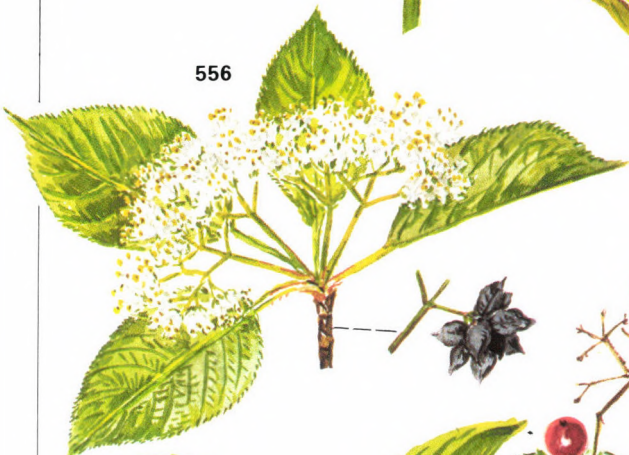
A 3–5 m high, deciduous shrub or small tree, originating from North America. Its shining dark green leaves turn brownish red in autumn. Its broad, white flowers of 5–6 mm in diameter open in April–May in 5–10 cm wide corymbs. Its globose fruit is pruinose bluish black. Requirements are the same as for *V. lentago*.



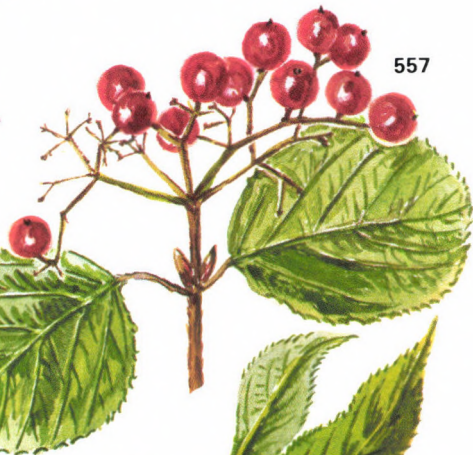
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Plate 131

**560. *Viburnum macrocephalum* Fort. —
Chinese Snowball**

A native of China; a 1–2 m high deciduous shrub sometimes with overwintering foliage. Its spherical inflorescence is composed of mostly sterile, fragrant, snow-white flowers opening in May–June. It should be planted in medium heavy fresh soil rich in nutrients. Being slightly frost-sensitive, under colder climates it had better be covered for the winter. When in blossom it is extremely attractive.

561. *Viburnum carlesii* Hemsl.

A 1–1.5 m high, sparsely branched, roundish, deciduous shrub from Korea. The shoots are covered with stellate hairs; the foliage turns yellowish red in autumn. Flowers rose-coloured in bud, white and very fragrant when opened, bloom in April–May. Its ellipsoid, 1 cm long bluish black fruit ripens in September–October. Soil and climatic requirements are the same as for the previous species. A frequently planted shrub of slow growth.

562. *Viburnum utile* Hemsl.

Native in Central China; a 1–2 m high, evergreen shrub with loosely set, thin branches. The leathery

leaves are bright green above and whitish stellate-haired below. Its small, white flowers open in April–May, the bluish black fruit ripens in August–September. It requires a calcareous, fresh soil, a humid climate and half shade. A very valuable evergreen shrub.

563. *Viburnum sargentii* Koehne

A 2–3 m high, deciduous shrub originating from North-east Asia. The three-lobed leaves turn red-dish in autumn. Flowers in cymes of 8–10 cm across bloom in May–June with white, sterile flowers of 2–3 cm at the margin of the cyme. The red fruit becomes ripe at the end of summer and remains attached to the branches until the beginning of winter. Rapid in growth; a sunny spot with fresh soil is the right place for it.

564. *Viburnum buddleifolium* Wright

It is a semi-evergreen shrub of 1–2 m, a native plant of Central China. The 8 mm large white flowers clustered in 6–8 cm corymbs open in May–June. The fruit, red when unripe, turns black with ripening. Usually planted for its beautifully cut leaves. The requirements are the same as those of *V. macrocephalum*.



Plate 132

**565. *Symphoricarpos occidentalis* Hook. —
Wolfberry**

A 1–1.5 m high, deciduous shrub coming from the western parts of North America. Its insignificant flowers are out in June–July. Fruit 1 cm across, globose, greenish white, the ornament of the shrub from September till November. It has very moderate requirements, growing even in the shade or on dry soil.

**566. *Symphoricarpos albus* Blake —
Snowberry, Waxberry**

Its native land is in the northern parts of North America. A 1 m high deciduous shrub with thin branches. Flowers grouped in spikes open from June till September. Its globose, white fruit remains on the branches from October till the middle of winter. Like the previous species it is very moderate in its requirements.

**567. *Symphoricarpos orbiculatus* Moench —
Indian Currant, Coralberry**

A 1–2 m high thin-branched North American shrub with spreading base. The leaves are elliptic or broad ovoid, 1.5–4 cm long, purplish red in autumn. The tiny flowers, reddish outside and yellowish white inside, forming axillary groups or terminal spikes open in July–August. Its coral-red fruit remains

attached to the branches until the end of winter. Modest in requirements, drought-resistant; frequently encountered in parks and gardens.

568. *Symphoricarpos microphyllus* Kunth

Native in Mexico, where it is a 1–2 m high shrub. The spikes composed of small number of whitish pink flowers bloom in August. The fruit is translucent white, or pink.

569. *Abelia* × *grandiflora* (André) Rehd.

A semi-evergreen shrub of 1–2 m. It is a hybrid of *A. chinensis* and *A. uniflora*. Flowers bloom on the fresh shoots from July till October. The leaves assume a wonderful colour in autumn. It should be planted at a half-shaded place in good soil. Slightly frost-sensitive.

**570. *Kolkwitzia amabilis* Graebn. —
Beauty-Bush**

A deciduous shrub of 2–3 m originating from Central China. Flowers, whitish pink with yellow inside, open on the short lateral shoots in May–June. The pubescent fruit is also decorative. It requires a good quality loose, warm soil and a sunny place. A beautiful shrub to be planted as a solitaire, or in small groups.



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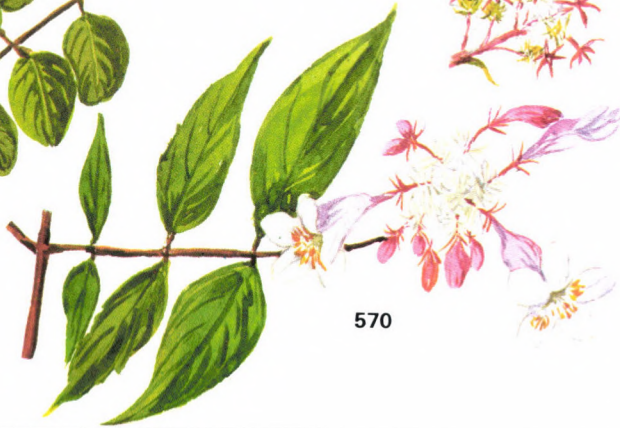
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Plate 133

**571. *Diervilla sessilifolia* Buckl. —
Bush-Honeysuckle**

A native of North America; a 1–1.5 m high shrub with deciduous leaves. The shoots are quadrangular, the leaves opposite. Its sulphur-yellow flowers open in terminal panicles on the fresh shoots from June till August. The fruit is an elongate capsule with two cells and many seeds. It requires a normal, or somewhat drier soil, either in the sun or in half-shade. A valuable shrub owing to its summer flowering, unfortunately, its flowering panicles are not very showy.

572. *Weigela florida* (Bge.) DC. 'Alba'

A 2–3 m high shrub with white flowers later turning pale rosy. The flowers appear in the leaf axil in May–June. Its oblong capsule opens with two valves. It requires a sunny place with a fresh soil rich in nutrients.

**573. *Weigela florida* (Bge.) DC.
'Eva Rathke'**

A shrub of 1.5–2 m, producing a profusion of dark red flowers at the end of May and in June. A slowly growing plant; perhaps the most beautiful *Weigela* variety frequently planted in gardens. Requirements as for the previous variety.

**574. *Weigela middendorffiana*
(Trautv. et C.A. Mey.) K. Koch**

It is a native of North China; a 1–1.5 m high, deciduous shrub. Flowers bloom in May–June. It requires a heavy, fresh or moist soil in a sunny place.

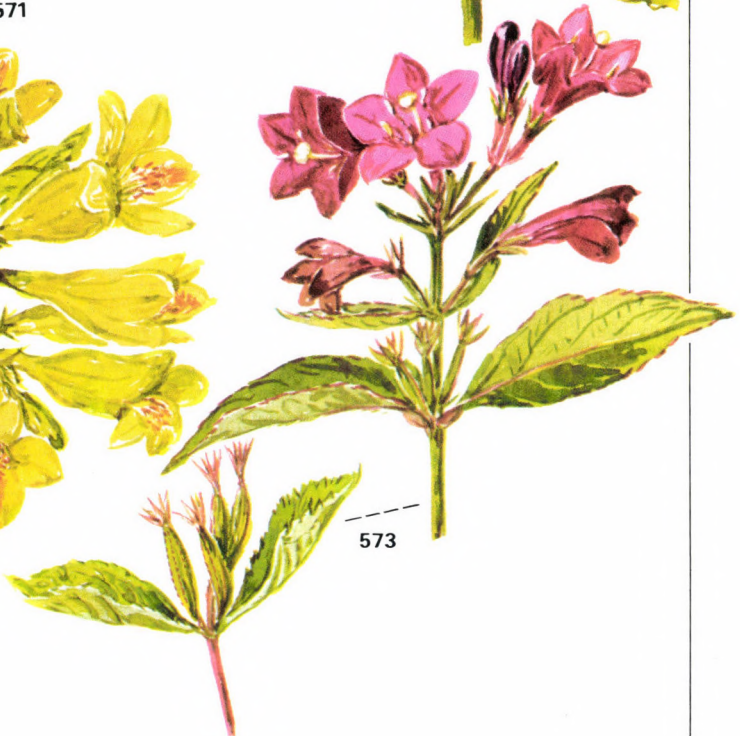


Plate 134

**575. *Lonicera caprifolium* L. —
Perfoliate Honeysuckle**

Native in Europe and Asia Minor. It is a twinning, deciduous shrub climbing up to 6–7 m. The 5–10 cm long and 3–6 cm wide leaves are crosswise opposite, only those close to the inflorescence are connate into elliptic discs. The fragrant flowers are out in May–June soon followed by the pea-sized red fruit. It brings a large quantity of flowers. Highly suitable to be trained on lattices, pergolas, fences. In sunny or half-shaded places with fresh or slightly dry soils it grows rapidly.

**576. *Lonicera tatarica* L. —
Tatarian Honeysuckle**

A large, deciduous shrub of 3–4 m, native in the southern parts of the Soviet Union. Its dark green leaves come out rather early. The white or rosy flowers sitting in twos on the peduncle open in May–June in the leaf axils. The peppercorn-sized red berries grown together in pairs ripen in July–August. Somewhat drought-resistant, moderate in soil requirements, though in better soils grows faster. Tolerant to half shade. Frequently encountered in parks and gardens.



Plate 135

577. *Lonicera myrtillus* Hook. f. et Thoms.

It is a small, thickly branched, deciduous shrub of 0.5–1 m, found from Afghanistan to the Himalayas. Its fragrant flowers come out in May–June, the red berries become ripe in July–August. It requires a soil rich in nutrients in a sunny or half-shaded spot. It is a most attractive plant when its fruit is ripening.

578. *Lonicera syringantha* Maxim.

It is a native of West China; a 2–3 m high, thick, deciduous shrub with thin branches. The flowers have a pleasant fragrance, their colour resembles that of lilac. Flowering in May and June; the red fruit ripens in August. It should be planted in good soil at a sunny place.

579. *Lonicera thibetica* Bur. et Franch.

A deciduous plant of 1–1.5 m, native in West China. Its branches are thin and partly prostrate. On the long stems the leaves form whorls of three. The flowers bloom in May–June; the 5–6 mm, ellipsoid, red fruit ripens in August–September. The requirements are the same as for the previous species. Lately a plant of increasing popularity.

580. *Lonicera spinosa* Jacq. var. *albertii* (Regel) Rehd.

Half to one metre high, thin-branched shrub inhabiting Turkestan and Tibet. The stems are inclined or prostrate, with linear-oblong entire leaves, bluish above and whitish green below. Flowers fragrant, blooming in May. The insignificant, pruinose, pale purplish red or greenish white, 6–8 mm long fruit becomes ripe in August. It has

very moderate requirements, growing even on poor, dry soils. A photophilous plant for rock-gardens, slopes or hill-sides as a solitaire.

581. *Lonicera fragrantissima* Lindl. et Paxt.

Its native land is East China. A 1.5–2 m high, semi-evergreen plant with yellow stems. The highly scented, white flowers open in February–March before leafing. The red fruit grown together in pairs ripens in May. It requires a fresh soil rich in nutrients in a sunny or half-shaded place to bring flowers early in spring.

582. *Lonicera pileata* Oliv.

It is a native of Central and West China; scarcely half a meter high, evergreen shrub with prostrate branches. The leaves sit on the shoots in double rows. Neither the yellow flowers opening in May, nor the fruit becoming ripe in October are of any particular interest. Its ornamental value lies in the dark green, lustrous leaves and in its prostrate habit. In a dry place it should be planted in half-shade but when the soil is fresh, requires sunshine. Frequently used to cover surfaces, in rock-gardens or at the edge of an evergreen group.

583. *Lonicera nitida* Wils.

A 1–1.5 m high, densely branched West-Chinese shrub with very thin stems. The leaves are broad-ovate or oblong-ovate, and small. The flowers are 8–10 mm long, milk-white and fragrant opening in May in pairs on the lateral shoots. Fruit is rarely produced and generally hidden among the leaves and branchlets. Being frost-sensitive, it should be planted in half-shaded, sheltered places, though its real beauty comes out in sunny places, on fertile soil.



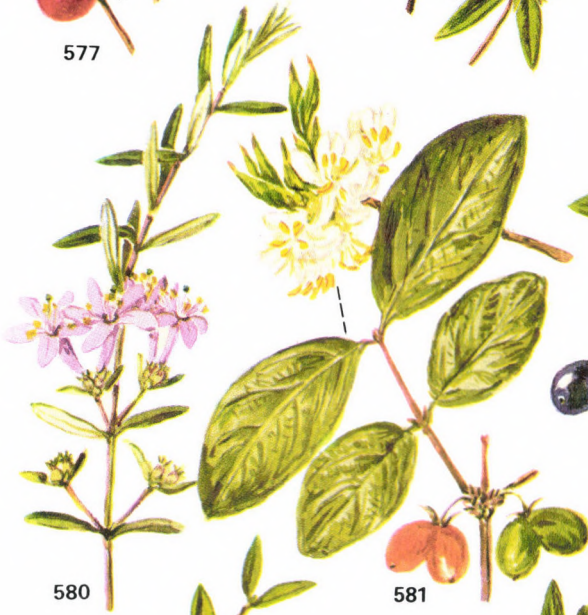
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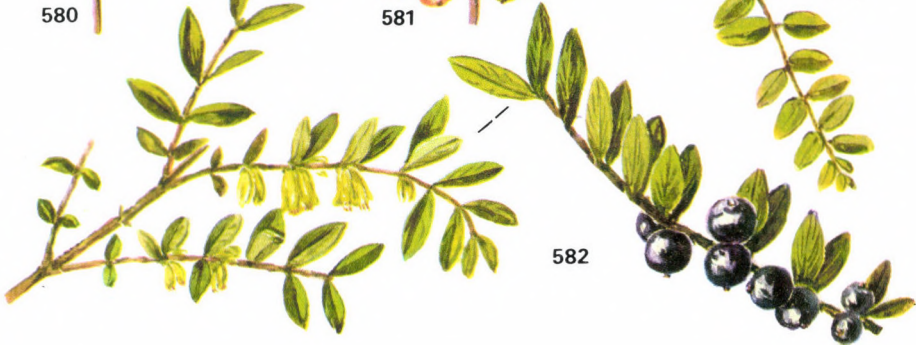


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Plate 136

584. *Lonicera* × *purpusii* Rehd.

It is the hybrid of *L. fragrantissima* and *L. standishii*. A shrub of 2–3 m with overwintering, semi-evergreen leaves. Its flowers, like those of *L. fragrantissima*, are white, fragrant, opening at the end of winter or early in spring. The red fruit becomes ripe in May. It requires a good soil and a sunny or half-shaded place. Its early flowering renders it valuable.

585. *Lonicera involucrata* (Richards.) Banks

Native of the western parts of North America from Alaska to Mexico. It is a small shrub of 1 m with thin, light green leaves glabrous below. Flowers produced in pairs in the leaf axils of the fresh shoots open in May. Its lustrous blackish purple fruit is enveloped in two dark red bracts. This picturesque fruit is seen on the shrub from June till the end of summer. It requires a sunny or half-shaded place and a fresh soil.

586. *Lonicera alpigena* L. — Alpine Honeysuckle

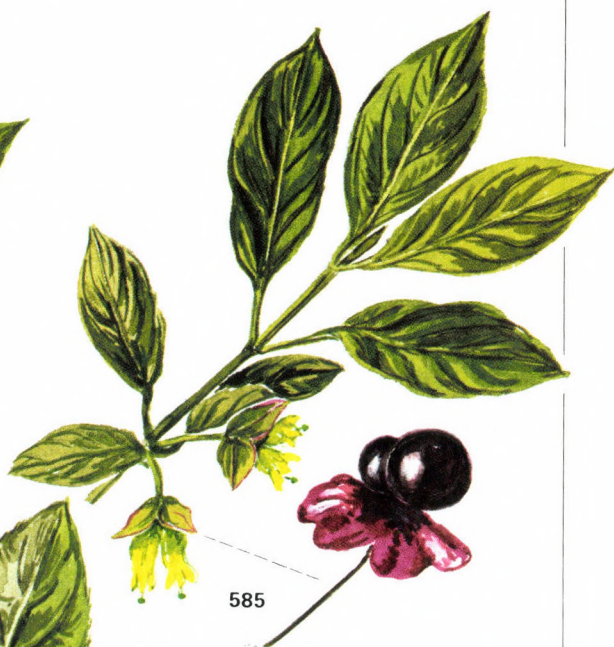
A 1–2 m high, deciduous shrub with rigidly upright stems in the high mountains of South Europe. The two-lipped, yellow or yellowish green flowers sitting on 1–1.5 cm long peduncles open in May. The red fruit ripens in August and September. It is encountered mostly in gardens stocked with specialities.

587. *Lonicera ledebourii* Eschsch.

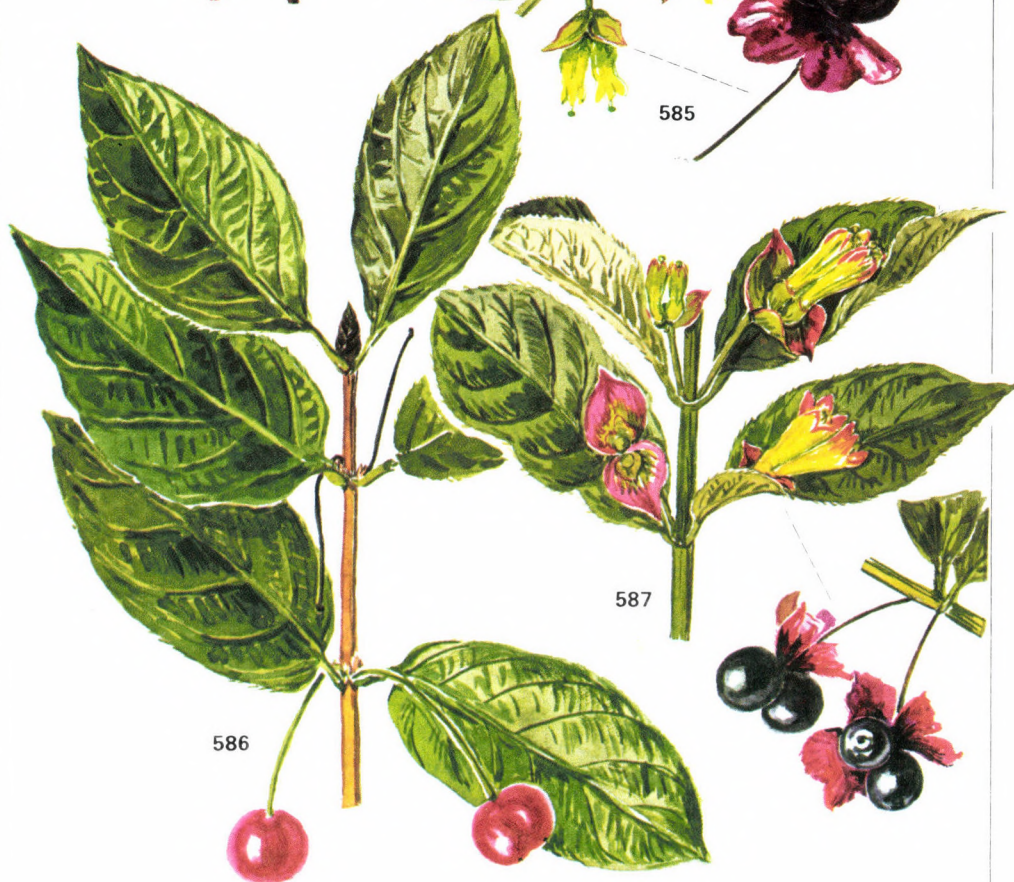
A Californian shrub with upright stems and deciduous leaves. Very similar to No. 585, but taller, 2–3 m, with thick leaves, dark green above and tomentose beneath. The flowers are produced in June–July, the fruit remains on the stems until September. Its ornamental value lies in the leaves, flowers, but first of all in the fruit. It requires a sunny place and a good quality soil with medium water balance.



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Plate 137

588. *Lonicera korolkowii* Stapf

A native of Turkestan, a densely branching, large shrub of 2–3 m, with slender stems. The leaves are greyish or bluish green on both sides. Its pale rosy flowers come out in May–June, while the lustrous, light red fruit ripens in July–August. Prefers a sunny, warm place, moderately drought-resistant. Besides the flowers and fruit the leaves are also of ornamental value. It is frequently found in gardens.

589. *Lonicera henryi* Hemsl.

An evergreen shrub climbing up to 2–3 m, or sometimes entirely prostrate, originating from South-west China. Its lanceolate leaves are ciliate and pubescent along the midrib of the lower surface. The flowers open on the young shoots in June–July, the fruit becomes ripe in September–October. It thrives best in a half-shaded or shaded spot, in moderately moist soil; when exposed to the sun the leaves may suffer frost-bite. An excellent coverplant.

590. *Lonicera maackii* (Rupr.) Maxim.

Its native land is in North China and Korea. It is a 2–5 m high broad shrub. The leaves fall late in

autumn. Flowers white and fragrant, turning yellow after flowering, open in pairs in the leaf axils in June. Its bead-like dark red fruit remains on the branches well after the falling of the leaves. Withstands urban conditions, rapidly develops in any good quality soil. A photophilous plant.

591. *Lonicera japonica* Thunb. var. **repens** (Sieb.) Rehd. — **Japanese Honeysuckle**

As its name suggests it originates from Japan. It is a shrub climbing up to 2–4 m, or sometimes prostrate, with overwintering leaves. The young shoots are red, the leaves either entire or unpinnately lobed. Flowers fragrant, white, later turning yellow, bloom from June till September. The fruit is black and globose. A rapidly spreading plant, particularly suitable to cover bare spots. It thrives well both in sun and shade.

592. *Lonicera japonica* Thunb. **'Reticulata'**

A shrub much resembling the previous plant, except that it has golden yellow-mottled leaves, occasionally mixed with some green leaves characteristic of the species.

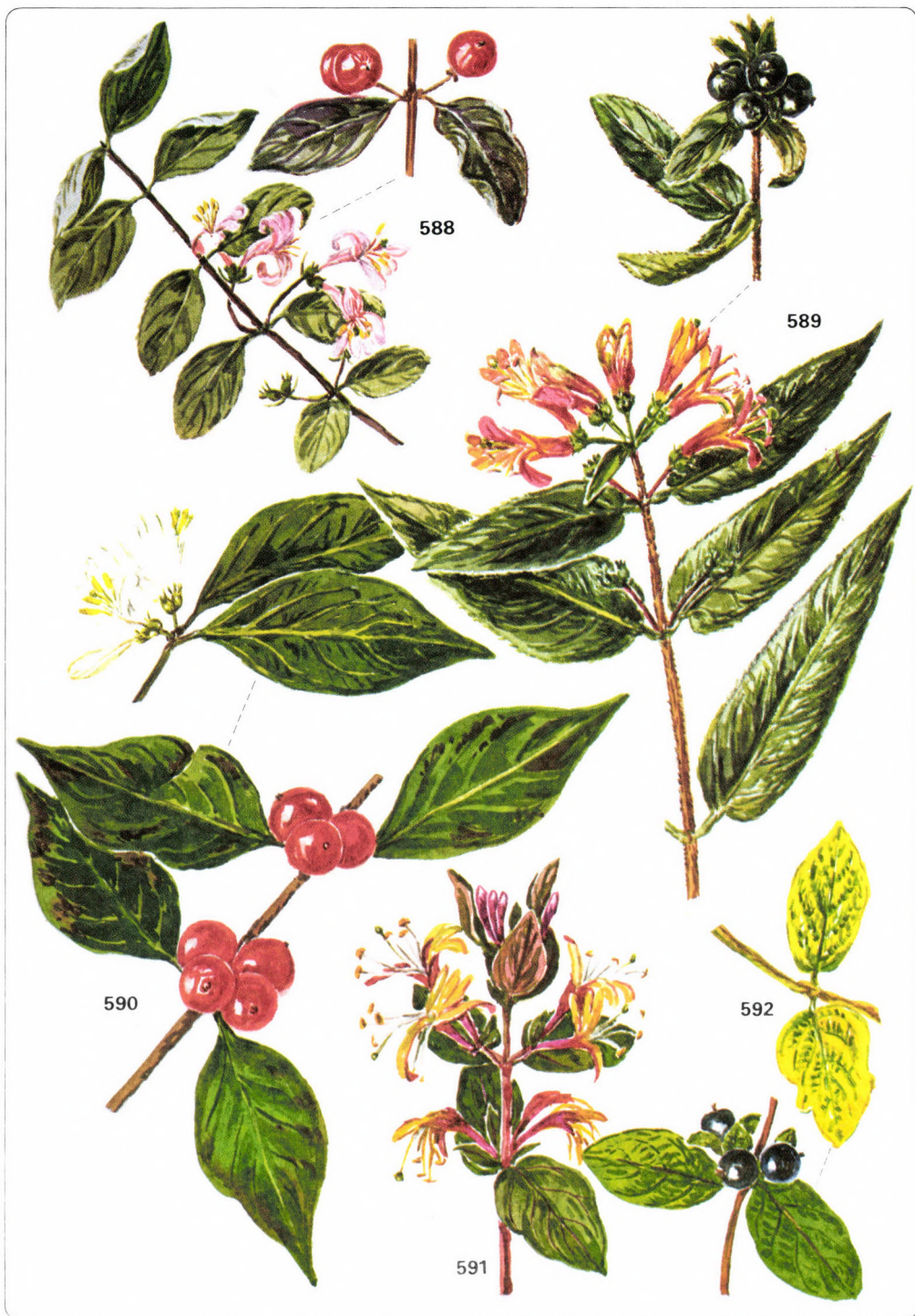


Plate 138

593. *Lonicera dioica* L.

It is a native of the north-eastern parts of North America; a 1–1.5 m high, deciduous plant with some tendency to climb, or bushy in habit. The flowers open in terminal whorls on the shoots in May–June. The red fruit becomes ripe in July–August. It lives on moist or wet soil in sunny or half-shaded places. If we want a healthy plant it should be placed under conditions meeting its demands.

594. *Lonicera* × *brownii* Carr. 'Plantierensis'

The original species is a hybrid of *L. hirsuta* and *L. sempervirens*. This particular variety is a deciduous shrub climbing up to 3–5 m. The scentless flowers bloom continuously from May to August. It requires a sunny spot and a fresh soil rich in nutrients. A most decorative plant.

595. *Lonicera periclymenum* L. — Woodbine, Honeysuckle

A 4–5 m high deciduous climber in Europe, North Africa and Asia Minor. Unlike most climbing

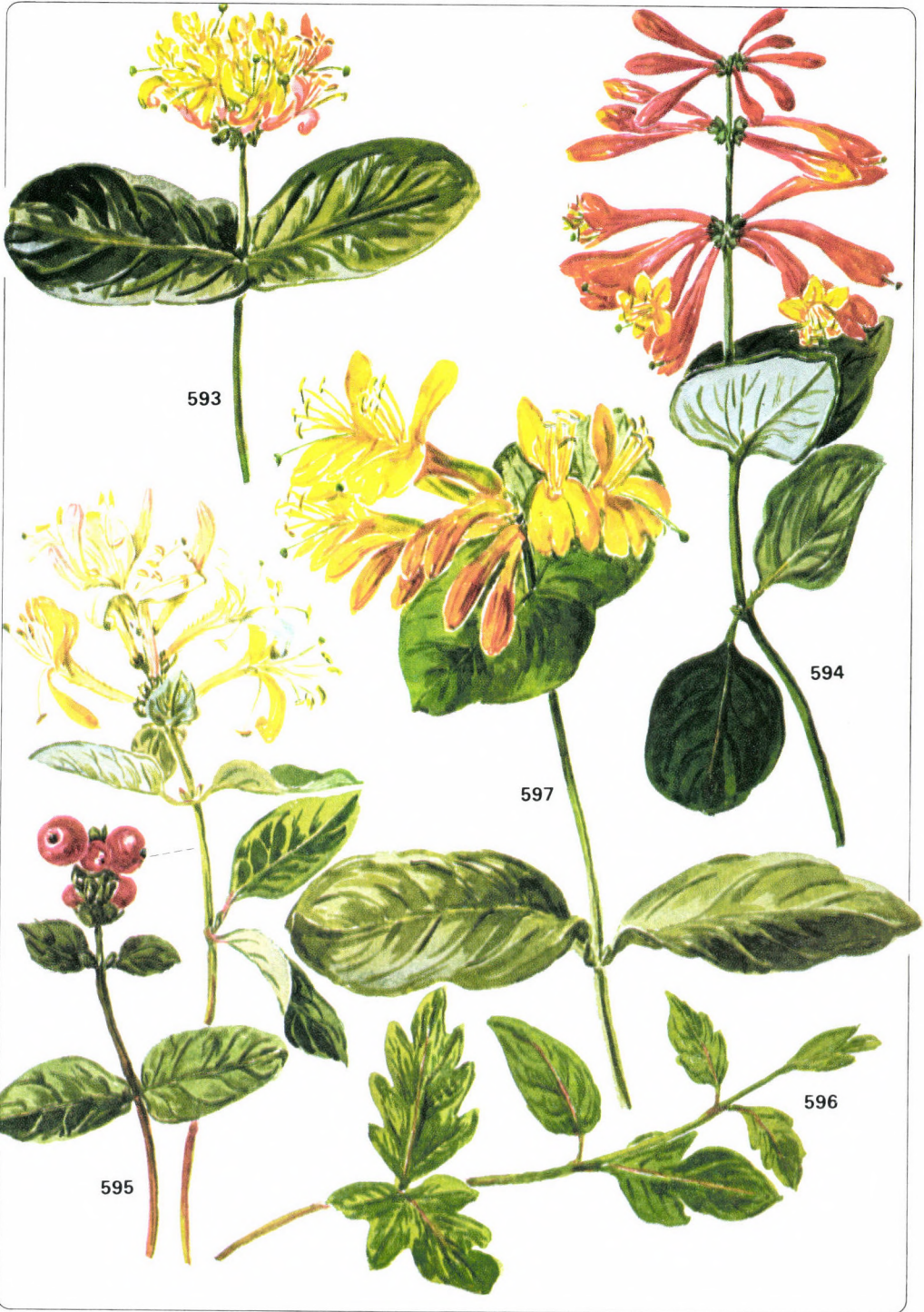
honeysuckle species it has a free—never fused—pair of leaves just below the flower cluster. The fragrant flowers bloom continuously from May to August. The fruit ripens from July till September. A plant for half-shade or shade; moderately drought-resistant. When trained on pergolas, lattices and wire-fences it is most attractive.

596. *Lonicera periclymenum* L. 'Quercina'

Similar to the previous plant but the leaves are pinnately lobed.

597. *Lonicera* × *tellmanniana* Magyar

Gyula Magyar, lecturer at the Horticultural High School, Budapest, produced it by crossing *L. tragophylla* and *L. sempervirens*. With its twining stem it may climb up to 5–8 m. The golden yellow flowers sitting terminally on the young shoots just above the leaves fused at the shoulder open in May–June. The fruit is orange-red and globose. It should be planted in good soil at a sunny or half-shaded place. A valuable ornamental shrub of vigorous growth and abundant flowering, considered to be the finest climbing *Lonicera*.



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Plate 139

**598. *Leycesteria formosa* Wall. —
Himalaya-Honeysuckle**

A 1.5–2 m high, deciduous shrub at the lower altitudes of the Himalayas, with thick, upright, hollow stems. The young shoots are bluish and

bloomy. Flowers surrounded by coloured bracts open in pendulous terminal and axillary spikes in August–September. The fruit, a many-seeded berry, ripens in September–October. It requires a sheltered, sunny, warm place, being frost-sensitive. An interesting, rare ornamental shrub.

Compositae (Asteraceae) — Composite Family

**599. *Baccharis halimifolia* L. —
Groundsel-Bush**

A 3–4 m high, deciduous shrub living in the southern part of the United States. A dioecious plant with whitish flowers blooming in August–

September. The tufted fruit remains on the shrub till October–November even after the falling of the leaves. Very modest in requirements, a drought-resistant, halophytic plant. It should be planted in the sun.

Monocotyledones — Monocotyledons

Liliaceae — Lily Family

600. *Smilax rotundifolia* L. — Horse-Brier

Native in North America. A 6–10 m high, climbing shrub with deciduous or semipersistent leaves. The cylindrical stems are armed with a few spines. The young shoots are quadrate. It is dioecious; the greenish yellow flowers open in June. The fruit is 6 mm across, bluish black and bloomy becoming ripe in September–October. It should be planted in a sheltered, sunny, warm place. A shrub of vigorous growth.

**601. *Danaë racemosa* (L.) Moench —
Alexandrian-Laurel**

It is a native of the northern parts of Persia and Syria. An evergreen plant of 0.5–1 m, with peculiar phyllocladia on which the minute, scale-like leaves are scarcely distinguishable. Its insignificant, white flowers grouped in terminal racemes open in June–July. The fruit is red. A plant for half-shade or shade, developing well in a humous, fresh soil.



Plate 140

602. *Yucca filamentosa* L. — Adams-Needle

It is a large acaulescent plant spreading by stolons, a native of the southern parts of the United States. Leaves evergreen, erect and linear-lanceolate, 30–70 cm long and 2–4 cm wide. Panicles 1–2 m tall, composed of yellowish white pendulous flowers in July–August. The fruit is dry capsule, dehiscent of three valves. It should be planted in a sunny, warm place, even in dry, water-permeable soil, since it is drought-resistant, but looks much finer in an irrigated lawn. Owing to its spreading leaves and large panicles it is frequently planted in gardens and parks.

603. *Ruscus aculeatus* L. — Butchers-Broom

A native of South Europe and Asia Minor; a 30–70 cm tall, densely branched evergreen shrub with a

spreading base. The small leaves are found at the bases of the leaf-like cladodes, phyllocladia of 1–2 cm tipped with spines. The leaf-like stems bear flowers in the axils of the bracts in March–April. The fruit ripens in October. It requires a warm, clayey, or loose humous soil in a half-shaded or shaded place. The above-ground part of the plant is used for decoration.

604. *Ruscus hypoglossum* L.

A 20–50 cm high, unbranched evergreen shrub in South Europe. Its lustruous, dark green leaf-like stems of 2–4 cm are without spines. The fruit is red. The requirements are the same as for the previous species.



Plate 141

Gramineae (Poaceae) — Grass Family

605. *Sasa pumila* (Mitford) E.G. Camus

A 30–60 cm tall Japanese evergreen with a spreading base giving off bamboo-like shoots. The leaves are 7–15 cm long and 1–2 cm wide. Requirements as under No. 607.

606. *Phyllostachys viridi-glaucescens*

(Carr.) Riv.

A densely branched Chinese climbing shrub with leaves either evergreen or semipersistent. The stems are yellow or olive-green with a long groove on one side. The leaves are narrow, lanceolate, 5–10 cm long and 1–2 cm wide. The inflorescence is a loose, terminal panicle, but in Central Europe it produces neither flowers nor fruit. It spreads by tillers. It should be planted in moist soil rich in nutrients at a sunny or half-shaded place. Most suitable for covering bare spots. Rather exotic in appearance, an important plant in gardens of Far-Eastern character.

607. *Sasa palmata* (Burbridge) A. Camus

A Japanese evergreen of 1–2 m, with spreading base. The leaves are 10–30 long and 7–8 cm wide. Neither the flowers nor the fruit are of any decorative value. It should be placed in a half-shaded or shaded spot in fresh soil rich in nutrients. Under colder climate it had better be covered for the winter.

608. *Pseudosasa japonica*

(Sieb. et Zucc.) Mak. —

Metake

A Japanese evergreen shrub of 2–3 m. It grows rapidly and spreads from the base. Its lanceolate, lustrous, dark green leaves are 10–25 cm long and 2–4 cm wide. Requirements as for the previous species.



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**Bibliographia
Synoecologica Scientifica
Hungarica 1900—1972**

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With a preface in English and German
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