ALDER (Alnus glutinosa)

(Plate 4).

Essentially a moisture-loving tree and rarely found in dry situations but common on banks of rivers and in low-lying and marshy districts, where it is often found growing in company with Willows. It can only be termed a fair-sized tree having an average height of from 30 to 40 feet, but the variation in size and height is very considerable according to the situation in which the tree is growing. In rich soil on river banks Alders have been known to attain a height of nearly 70 feet, but this is an exception to the rule. Sometimes, when observed away from water or swampy ground, and in a comparatively dry locality, it becomes stunted and but a poor example of the true type. In these latter situations it may form the characteristic Alder thickets and as the young, slender shoots are of a reddish hue, the thicket, from a distance, has a distinct purplish tinge.

Another favourite haunt is in damp oak woods where it will sometimes be seen growing in small clumps and in these more shaded situations does not, as a rule, attain a great size but is inclined to be lanky in its efforts to reach the light.

The trunk is straight and covered with rough bark of a dark brown colour; scaly and furrowed, from the base of which spring numerous shoots, giving the tree a shrublike appearance, especially in older trees when the trunk-foliage may be very dense. The long branches are stem-like, very smooth and with greenish brown bark.

One of the surest means of establishing identification during the summer months is the peculiar formation of the leaf (fig. 8), the characteristic feature being the broad, rounded top and depression at the apex. The base of the leaf is wedge-shaped and the margins are wavy as well as toothed, and attached to the stems on leaf-stalks three inches in length. When young the leaves are sticky to the touch and covered with fine hairs, but as they grow older they become less sticky and the colouring is a darker green. In the autumn the leaves remain green long after most other trees are adorned with autumn tints or have shed their leaves, and not until the late autumn do the Alder leaves assume their dark brown hue.

The young twigs (fig. 7) are much lighter in colour than the branches, being greenish brown with here and there touches of violet and red and are, on the whole, rough, but the newest, quick-growing shoots are small and possess singularly conspicuous reddish spots. The buds (fig.11) are large, distinctly triangular in shape and covered with bud-scales coated with a waxy substance.

Both the male and female flowers appear on the same tree being produced during the summer and can, therefore, be observed on the twigs before the leaves fall, as well as being in evidence throughout the winter in a dormant state. They develop as early as February, well in advance of the leaves, and it is in this month, and during March, that the Alder displays its delicate flowers in the form of long catkins.

The male catkins (fig. 10) are small and rigid during the winter but when mature develop into long pendant flowers often well over three inches in length, and composed of loose-set scales of a very dark brown colour. The female catkins (fig. 9) are quite unlike the male, being very small and borne on terminal twigs. When young they are smooth and reddish brown, but on ripening very much resemble a miniature cone and measure a little under half an inch in length.

The Alder is a native tree of Britain.

alder

ASH (Fraxinus Excelsior).

(Plate 12).

This familiar tree can rightly be called a child of British soil, for its was well known to the Romans who employed it in the making of numerous weapons. Its wide distribution over the whole of the land makes it a common object of the countryside, but owing to the roots having a preference for moist soil, it is found most plentifully on low-lying land, especially in the vicinity of streams and on marshland. It is a large tree, exceedingly graceful in appearance and standing some 80 to 100 feet in height, with a long trunk and wide-spreading crown. The trunk is clothed in moderately smooth bark of a greenish grey colour. The branches are long and slender and smoother than the trunk.

It is often supposed that the Ash will always flourish near water, but this is not altogether true for the roots dislike the presence of stagnant water and only delight to approach as closely as possible to a running stream.

No difficulty need be experienced in identifying the Ash during the winter months for the buds and twigs are characteristic of the tree. The new shoots (fig. 3) are singularly ash-coloured and flattened, this latter peculiarity being most noticeable towards the terminal buds. The flowers (fig. 6) appear at least a month in advance of the leaves, and for this reason the flower-buds (fig. 5) are much further developed, and will be found at the extremities of each twig. Unlike almost any other tree the flower-buds, as well as the leaf-buds, are quite black, the latter being very small and situated on the sides of the stems. The larger buds produce dense clusters of flowers which are very conspicuous and appear on the bare twigs in April.

The leaves (fig. 1) are compound and composed of five pairs of leaflets and a terminal one; occasionally there are six pairs. The leaflets are set in pairs along the stalk opposite each other and the terminal one is larger than the others. Each is lancet-shaped but broad and coarsely and unequally toothed; the margins of the leaves at the base are entire. Before falling in the autumn the leaves turn yellow and brown. The Ash is one of the last trees to come into leaf in the spring.

The fruit of the Ash is winged (figs. 2 and 4) or provided with " keys " like the Sycamore, but differs in that it is produced singly instead of in pairs. Unlike the winged fruits of most trees, the Ash does not shed its seeds in the autumn but is very firmly fixed to the twigs and usually remains throughout the winter, and is then only dislodged by an exceptionally strong wind in the spring. For this reason the seeds are often carried a considerable distance and young Ash trees are often found growing in the most unexpected places, on walls and old buildings, and sometimes sprouting from the decayed trunk of a willow tree.

It is a common sight to witness bunches of fruit still hanging on the branches of the Ash when the tree is covered with new foliage in the spring, and as the wings are brown in colour it appears as though the tree were covered with the last season's withered leaves.

ASPEN (Populus tremula).

(Plate 7).

The Aspen is a variety of Poplar and may be identified by the familiar trembling leaves. It is a moderate sized tree not attaining the tremendous height of the Lombardy Poplar, but usually rising between 50 and 80 feet from the ground. Like most Poplars and Willows, the Aspen prefers moist soil and is usually found in damp situations but not necessarily near water. It has long, slender roots of a straggling nature, growing not far below the surface of the ground and from these spring numerous shoots which accounts for the shrub-like growth surrounding the tree.

The roundish leaves (fig. 12) are green on the upper sides but white beneath and hairy only when young. The leaf-stalk is unusually long and flattened and cannot, therefore, support the leaf in a horizontal position, so that the least breath of wind will cause the leaves to move and produce the trembling of the foliage.

Of all the trees bearing catkins the Aspen displays the largest and most beautiful of any, and these supply adequate means of identification of the tree in the spring. When young they hang like silken tassels and have a very fluffy appearance. As they ripen they often attain a considerable length and, being light, move with the slightest breeze. The male and female flowers (figs. 8 and 9) do not differ greatly in appearance but both are very dense and the scales completely hidden by the profusion of long silky hairs. They hang downwards and are situated towards the ends of the shoots.

BARBERRY (Berberis vulgaris).

(Plate 18).

A low-growing shrub found in most parts of the country, and although fairly well distributed throughout the land is, to a certain extent, local, being much more plentiful in some localities. On account of its ornamental appearance and profusion of flowers and berries, it has for a long while been cultivated extensively in gardens and in such circumstances the Barberry attains a height of twenty feet or more. In its wild state, however, it is but a thorny bush between five and ten feet high and usually observed in hedgerows and among the undergrowth in woods and copses.

The branches are very smooth barked and of a distinctive light bluish-grey colour, the characteristic of the plant being the thorns which are always arranged on the stems in threes, distinguishing it from all other shrubs.

The leaves (fig. 7) are elliptical and of a dark polished green above and paler beneath; the margins are toothed, on the tip of each tooth is a bristle pointing towards the apex. On the longer stems the leaves are set at regular intervals, whereas on the dwarf shoots they appear in small clusters.

The blossoms are bright yellow and composed of six rounded petals (fig. 4}, and borne in clusters; the scent is not pleasant and very strong.

The fruit (fig. 5) is easily recognised by its shape, the berries being larger at the base than at the apex and bright scarlet (fig. 6). Like the flowers they hang in clusters, and because they possess such an acid taste are not eaten by the birds, therefore remaining on the bush a long time, and, when produced in abundance, are particularly ornamental.

BEECH (Fagus sylvatica)

(Plate 10).

A true native of Britain and an abundant tree but not so widely distributed as the Oak owing to its liking for loamy soil and chalk, but plentiful in such districts as contain the type of soil most suited to its growth. It is a tree of tremendous proportions reaching a height of from 60 to 100 feet and from 5 to 8 feet in diameter at the base of the trunk. The branches spread out horizontally and the foliage is very profuse, thus creating a great amount of shade and for this reason, as well as the heavy dripping from the leaves, little growth is found beneath the tree. This is particularly noticeable in a beech wood which may be entirely devoid of undergrowth of every description, except for the numerous beech seedlings resulting from the familiar beech nuts.

The bark is smooth and in certain circumstances a rich green or silvery-grey colour, but in towns the colouring varies from dull grey to dark brown. In trees of large dimensions and great age, the lower branches develop to tremendous proportions and sweep the ground at their tips, creating a leafy arbour.

The leaf-buds always constitute a sure means of determining the identity of the Beech, for they are unusually long and thin and covered with tightly wrapped, over-lapping scales (fig.11) which become sticky as the time approaches for the appearance of the leaves; they are light brown in colour and very pointed. Smaller buds are produced in the axils of the lower shoots, but these remain dormant. The twigs are very slender in proportion to the buds and the young shoots have a varnished appearance.

Not until the tree is covered with new foliage do the flowers open. They are tassel-like (fig. 9), and hang on long, slender, silky stalks.

In general form the leaf is elliptical with a sharp pointed apex (fig. 12). The margins are without teeth but faintly wavy; the upper surface is dark green in colour and glossy; the under sides slightly paler and the veins very prominent and straight. They have a leathery texture and are set alternately on the twigs. In the summer it is easily recognised by the masses of foliage. The larger trees shed their leaves in the autumn but the younger Beeches retain their brown, withered leaves on the branches throughout the winter months.

The fruit is the familiar beechnut which is much in evidence in Beech woods, the ground beneath the trees being strewn all over with them in the autumn and winter. The nuts (fig. 8), each containing one seed are produced together, enclosed in a hairy capsule, or casing, which, when young, is soft and green in colour, but as it develops becomes thick and woody and very shiny, and on reaching maturity splits into four valves releasing the nuts. The nuts are triangular in shape, very smooth and glossy and of a rich chestnut brown, and known as " masts. "

BIRCH (Betula Alba).

(Plate 10) .

The Birch is a perfect combination of strength and beauty and stands unrivalled in grace, lightness and elegance, and may be recognised by its slender form. A strange feature of this tree is that it prefers to stand on its own, yet by its very delicacy one would expect it to flourish better where it could obtain some measure of protection from other trees, yet Birches have been found in some of the most exposed and perilous situations, where the sturdy Oak would never exist.

The average height is from 40 to 60 feet and the straight trunk is peculiar for its smooth, papery bark, peeling off in flakes. The branches are slender and very graceful. Unlike such trees as the Oak, Chestnut or Sycamore, the Birch is peculiar for its masses of fine twigs, for the leaves, being small, do not require strong stems to support them. Owing to the thinness of these stems they have for generations been employed extensively in the manufacture of baskets, and hoops for casks, as well as garden brooms. The new season's shoots are a uniform purplish brown and the buds are very small and not, therefore, much in evidence during the winter months as they grow close to the twigs. They are pointed, covered with small scales, and appear on the twigs at wide intervals and situated alternately on each side (figs. 2 and 6).

The leaves (fig. 1) are roughly triangular in shape, narrowing gradually towards the apex and continuing to a sharp point; the base is broad; the leaf-stalks long.

There is little difficulty in distinguishing between the male and female catkins of the Birch owing to the great difference in size; the male are always more in evidence being two to two and a half inches in length, and usually hanging in pairs from the extremity of the twigs (fig. 5). They are very dense, the scales being very numerous and closely packed round the central stem. The pollen-bearing flowers are small, the whole, therefore, has a compact appearance. The female flowers are smaller, being no more than three quarters of an inch long and composed of compact, spike-shaped scales. The scales of the male catkins are a reddish brown, while those of the female flowers, pale green.

The male catkins are developed in the autumn and seen on the trees throughout the winter months, but they do not mature until the leaves appear. The female flowers are contained in buds during the winter, opening in February or March.

BLACKTHORN (Prunus Spinosa).

(Plate 15).

This shrub is known as the Sloe, or Wild Plum, as the fruit is the wild state of the cultivated orchard or garden plum. It sometimes attains the proportions of a tree but more often takes the form of a bush and is a common sight in hedgerows and on commons, often growing in very exposed situations such as bleak stretches of wastes on the top of cliffs bordering the sea where few other shrubs could exist.

The trunk is twisted and covered with rough bark of a rich brown colour; the branches very numerous, tangled and twisted, and covered with smooth, sharply pointed spines.

The leaves (fig. 14) differ great]y from those of the Hawthorn (Crataegus oxycanthus), insomuch as they are not lobed, as is the case with the latter, but very small and possessing exceedingly minute teeth round the margins In general form the leaves of the Blackthorn are elliptical, tapering towards the base, of a dark green colour and growing in small clusters.

During the early spring months this bush is easily identified by the numerous small white blossoms which appear well in advance of the leaves and are particularly conspicuous against the background of black twigs. These blossoms (fig. 10) are composed of five petals, but can always be distinguished from the Hawthorn, or May, by the fact that the petals are larger and thinner and separated (fig. 11).

The Sloe berry, or Wild Plum (fig. 12), exactly resembles the well-known garden fruit, but is very much smaller. The colour is deep purple over which is a whitish bloom, and when this is rubbed off, the skin beneath will be found to be shiny; the inside fleshy but hard. Each fruit contains a single seed, or stone. The fruits are sometimes borne on short stems, but not uncommonly the stems are absent, the berries being fastened closely to the woody twigs, hence they are liable to go unnoticed unless a fairly close examination is made of the bush or tree.

.

BLACKBERRY (Rubus fruticosus).

(Plate 16).

The Blackberry, or Bramble, is a prickly, trailing bush and seems to be able to thrive almost anywhere, both in damp situations as well as in dry soil, and few hedgerows can be found where this familiar shrub does not take its place among the other hedgerow plants.

The stems are thick and fleshy and covered with prickles which curve downwards at the tops. At times when growing by itself the Bramble will become a remarkably large bush composed of a tangled mass of prickly, trailing branches.

The leaves (fig. 7) grow on the shoots in threes, two opposite one another with a terminal leaf. They are broad at the base; bluntly pointed at the apex and the margins coarsely and irregularly toothed.

The flowers (fig. 9) have five petals which, although usually white, are sometimes of a pinkish colour. They appear in small clusters at the ends of the stems and these eventually result in the familiar fruit during September and October.

The fruit is widely known and edible, and as the Blackberry or Bramble bush is a common plant, these fruits are much in evidence in hedgerows and woods and on wasteland everywhere. The Blackberry is what is known as a multiple berry, that is, one which is composed of a large number of small fruitlets, each containing a seed, yet so closely arranged together as to form a single fruit. When first formed they are green, becoming red as they mature, and finally black and very soft. They appear towards the ends of the branches, are borne on prickly stalks and arranged on all sides of the main stem.

Only in very sheltered and sunny situations do these fruits ripen before September, the usual season being early September to mid-October.

BROOM (Sarothamnus scoparius).

(Plate 19)

Dry, chalky soil seems to suit this plant best and commons and downland are its favourite haunts. It is an evergreen shrub reaching a height of from six to ten feet, usually growing in quantities, or less frequently in single bushes. When in flower in spring and early summer it is never difficult to identify. The lower branches are woody but the topmost stems are less hard, being green and furrowed. The upper stems are clothed with small leaves, the lower ones composed of three leaflets, while those higher up are single.

The large flowers (figs. 2 and 3) are very profuse and in some degree resemble the pea.

The seed is contained in pods (fig. 1) an inch and a half to two inches in length, and composed of two valves which split open and twist in a spiral fashion when the seed is released.

BUTCHER'S BROOM (Ruscus aculeatus).

(Plate 18) .

A small evergreen shrub commonly found in woods, and less frequently in well shaded hedgerows. This interesting plant is, perhaps, more noticeable during the winter months for, as well as being an evergreen it is covered with conspicuous red berries and somewhat resembles a miniature holly bush Apart from its woodland haunts it is only met with at the bottom of damp hedgerows where it grows almost unnoticed in the summer but is much in evidence during the autumn and winter when the leaves of the neighbouring bushes have fallen .

It grows to a height of from one to two feet. The stems are woody in texture; the leaf-stalks very short and flattened. The leaves are sharply pointed and clustered closely round the stems.

The flowers, which appear in February and March, are particularly inconspicuous, but owing to their very unusual growth make the plant one of the most interesting of its kind found in hedgerows and woods. The small white blossoms (fig. 14) appear in the centre of the leaves, lying flat against the mid-rib. This strange feature, peculiar to this shrub, is explained by the fact that the leaves are actually branches, the true leaves being very minute and growing from the axils of these " branches." In the autumn the female flowers are succeeded by the bright red berries which measure one third of an inch in diameter (figs. 12 and 13).

Butcher's Broom is also known and Knee Holly and Kneeholm.

ALDER BUCKTHORN (Rhamnus Frangula).

(Plate 17).

Of the two kinds of Buckthorn to be met with throughout the countryside, the Alder Buckthorn is the commoner plant; the Purging Buckthorn (Rhamnus cathartieus) being far less widely distributed. The Alder Buckthorn is most plentiful in woods and especially in hedges bordering woods. Sometimes known as the Berry-bearing Alder, it never rises above the dignity of a shrub, varying in height from five to ten feet.

The long, slender branches are moderately smooth and the wood, when reduced to charcoal is used in the manufacture of gunpowder. Being partially brittle the branches snap easily. The twigs are slender and hairy at the tops.

The leaves (fig. 11) are oblong in shape, those of the Purging Buckthorn elliptical. The margins are entire, that is, without teeth, and the colouring above is a deep green, the under sides paler. They are set on the stems alternately.

The flowers (fig. 12) are not numerous, appearing on short flower stalks, from the axils of the leaves.

The fruit appears in September and takes the form of round, black berries (fig. 13), half an inch in diameter. Before ripening the berries are a bright red but this colouring only lasts a short while before assuming the shiny black hue.

CEDAR (Cedrus Libani).

(Plate 1) .

The Cedar is a typical example of a tree which, having been introduced but three centuries ago, has become well and truly nationalised, and many specimens are to be found in parks, or on commons, where they often reach the same enormous proportions as those growing in their native haunts on the continent. Better known as the Cedar of Lebanon, it may be described as a picturesque fir, of shapely appearance, and rising to a height of 70 to 80 feet. Although at one time a comparatively plentiful tree, the Cedar is now much less common for, owing to the immense value of its timber, large numbers have fallen to the axe and these, unfortunately, have not been replenished. Specimens of this fine fir may, however, be observed throughout the country growing, as a rule, singly or sometimes in two or threes.

Apart from its immense size it is best recognised by the arrangement of the branches which are horizontal to the trunk and very wide-spreading. Both the trunk and branches are covered with black-grey bark, rough and fissured. The leaves or needles (fig. 14) appear thickly towards the ends of the branches and the whole tree is arranged in tier upon tier of dark green masses of foliage, assuming the general outline of a gigantic cone.

The needles are placed in tufts of from fifteen to twenty in each and are of a very deep green. This darkness of colouring constitutes an important distinguishing feature of the tree. The large, conspicuous cones (fig. 13) are also peculiar to this species of fir, being egg-shaped and purple-brown in colour. The scales grow closely together giving the cone the appearance of a wooden ball and each is borne singly at the extremities of the branches.

Another variety of cedar, equally common in this country. is the Indian Cedar, or Deodar. In general appearance and habits, as well as localities, it differs little from the Cedar of Lebanon and perhaps the best means of distinguishing it from the latter is the fact that the cones always appear in pairs.

TRAVELLERS' JOY (Clematis vitalba).

(Plate 18).

Travellers' Joy, or Wild Clematis, is one of the most common of climbing plants to be found in the hedges and sometimes is so plentiful as to completely cover the surrounding foliage. The long strangling stems, well furnished with spiral tendrons, climb over the tops of the other bushes and display their large leaves and clusters of small greenish or whitish flowers.

The leaves (fig. 10) consist of five leaflets, each being heart-shaped; a terminal leaf with two pairs arranged beneath it.

The flowers are not very conspicuous (fig. 8), but sometimes show up well against a background of dark green foliage. In the autumn the Wild Clematis is covered with bunches of fluffy seed cases (fig. 10), and for this reason is also known as Old Man's Beard.

COMMON OAK (Quercus robur).

(Plate 3).

A native of these shores, the Common Oak is, undoubtedly, the monarch of British trees, supreme in its strength and antiquity. With its gnarled trunk, twisted branches and magnificently rounded outline, it is a familiar and easily distinguished tree. The roots are amazingly strong, being composed of a main tap-root running deep into the earth and a number of horizontal branch roots. This formation, enabling the tree to withstand the fiercest storms, is doubtless the reason for its unusually long life as it has been known to thrive for one thousand years.

Although the oak is found in all parts of the British Isles, it is much more abundant in some localities, owing to its particular liking for heavy, clay soil in which situations it thrives well. In chalky districts it will be found in fewer numbers, and seldom attaining to any great size or height. Its growth is exceedingly slow and not until it has attained a hundred and fifty years is the timber fit for use. Another example of its slow development may be shewn by the fact that the tree does not bear fruit before it is sixty years old.

The sturdy, massive trunk reaches a height of from 70 to 120 feet, but when seen growing alone this height is often deceiving as the wide girth of the trunk is liable to make the tree appear of a much lesser height. The branches are very stout and strong, the lower ones spreading out horizontally from the trunk, while the higher, and smaller ones, twist in and out of the larger ones, the whole forming a tangled mass of contorted wood. The bark is a warm brownish-grey, very rough and deeply furrowed.

During the winter months the Oak can always be recognised by the large buds (figs. 2 and 6), which are blunt, stout and protected by a considerable number of scales. They are crowded together around the ends of the twigs, while some may be seen on the sides of the stems but these do not develop but remain dormant. The new shoots (fig 1) carrying these buds may be recognised by their smoothness and light brown colour as compared with the older twigs which are much more gnarled, and of a considerably darker brown.

The flowers of the Oak (fig. 7) appear soon after the young leaves have unfolded. The female flowers stand erect above the drooping clusters of male blossoms, which hang downwards having the appearance of very loose, yellowish green catkins. Though small and inconspicuous, these male flowers carry a profusion of dry pollen which is blown on to the stigmas of the female blossoms.

The lobed leaves (fig. 3), being peculiar to the Oak, afford a sure means of identification; the general form being oblong and cut into round lobes, tapering towards the leaf stalk, which is very short and sometimes entirely absent. The leaves, at the ends of the shoots, form a tuft, known as the Dryad's Crown.

The fruits, borne in neatly shaped cups, are the familiar acorns (fig. 5), and occur on separate stalks, and it is for this reason that the Common Oak is sometimes called the Stalked Oak.

The nuts, or seeds, should not be confused with the oakapple, or oak-gall, which is a parasitic growth, formed by a gall fly, and has no connection with the fruition of the tree.

This insect deposits its eggs in the stems by puncturing the twigs causing an apple-shaped swelling of the sap, and the oak-apple, when opened, will be found to contain the larva of the gall-fly.

CRACK WILLOW (Salix fragilis).

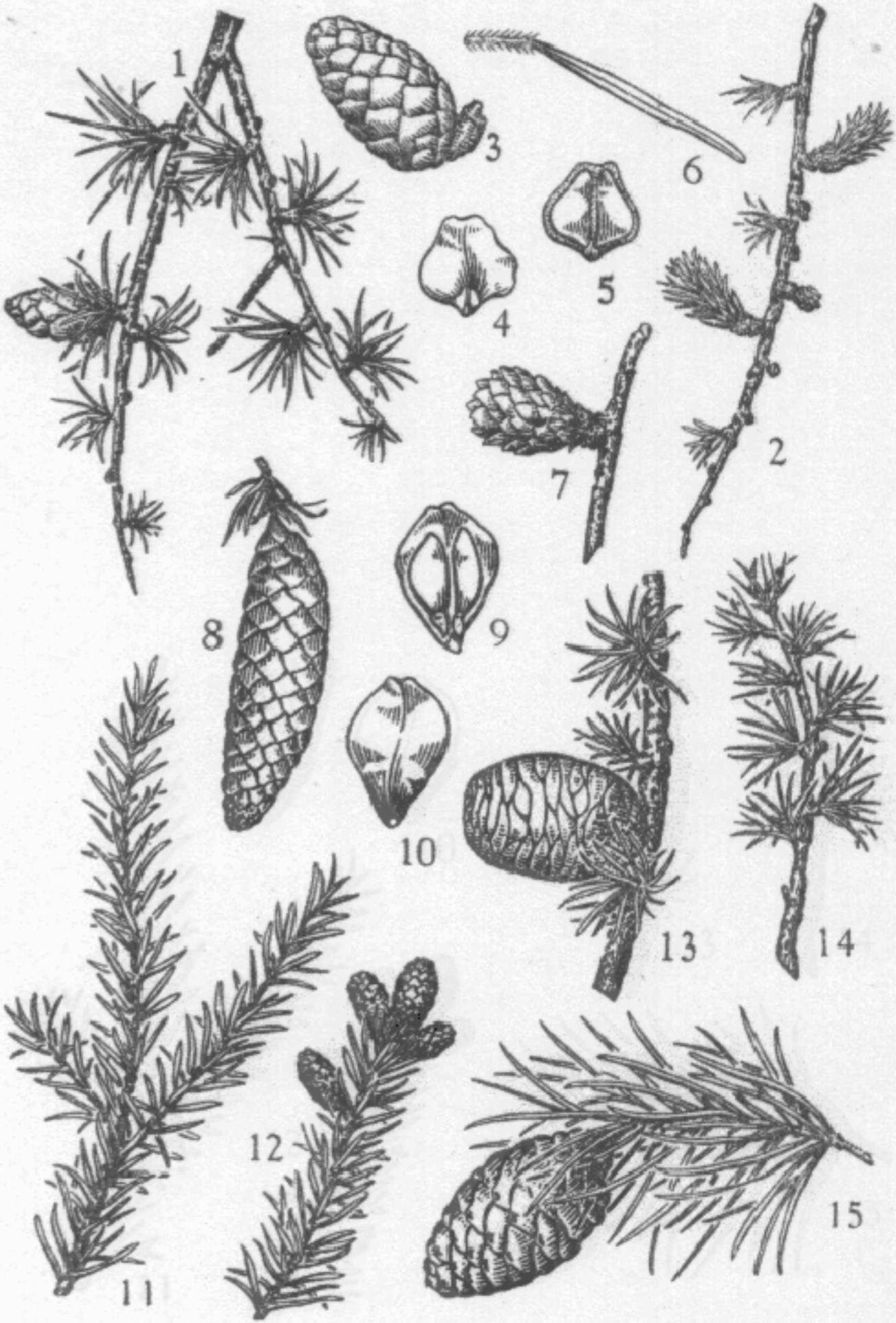
(Plate 5).

In general appearance the Crack Willow resembles the White Willow (Salix Alba), but may be distinguished by the fact that the leaves are not silky. It is the most abundant of the Willows and plentiful near water but not uncommon on high ground on fairly moist soil. The name is derived from the readiness with which the branches snap at their junction with the trunk and the least pressure will cause a sharp, cracking sound. It is a large tree but is often found pollarded, that is, having the branches cut off, giving it a stumpy appearance. A peculiar feature of the Crack Willow is the manner in which the top branches decay but this apparently does not affect the tree as fresh shoots are always being produced lower down.

In good, rich soil it will reach a height of 80 feet with a bole girth of 15 feet. The trunk is covered with rough brownish black bark, as also are the older branches, but the twigs and young shoots are smooth and light in colour and with various tints of orange and purplish brown.

The long, lance-shaped leaves (fig. 13) have a sharply pointed apex and are coarsely toothed around the margins; the upper sides a vivid green and pale bluish green beneath. The leaves have no hairs and are set alternatively on the stems.

The flowers, or catkins, are very attractive, the male flowers (fig. 11) being particularly silky and of a golden-yellow colour when ripe. They are borne singly on short stems and stand erect, and composed of a number of small scales which, when mature, are almost entirely hidden by the profusion of silky hairs, or stems, bearing the flowers, the latter being covered with golden yellow pollen. They measure just under two inches in length. The female catkins (fig. 12) are less colourful but longer, usually two and a half inches in length, more slender and composed of numerous sharply pointed, spike-like scales arranged closely around the main stem.


1
2
3
4
5
6
7
8
9
10
11
12
13
14
15


1
2
3
4
5
6
7
8
9
10
11


1
2
3
4
5
6
7
8
9
10
11
12


1
2
3
4
5
6
7
8
9
10


1
2
3
4
5
6
7
8
9
10
11


1
2
3
4
5
6
7
8
9
10

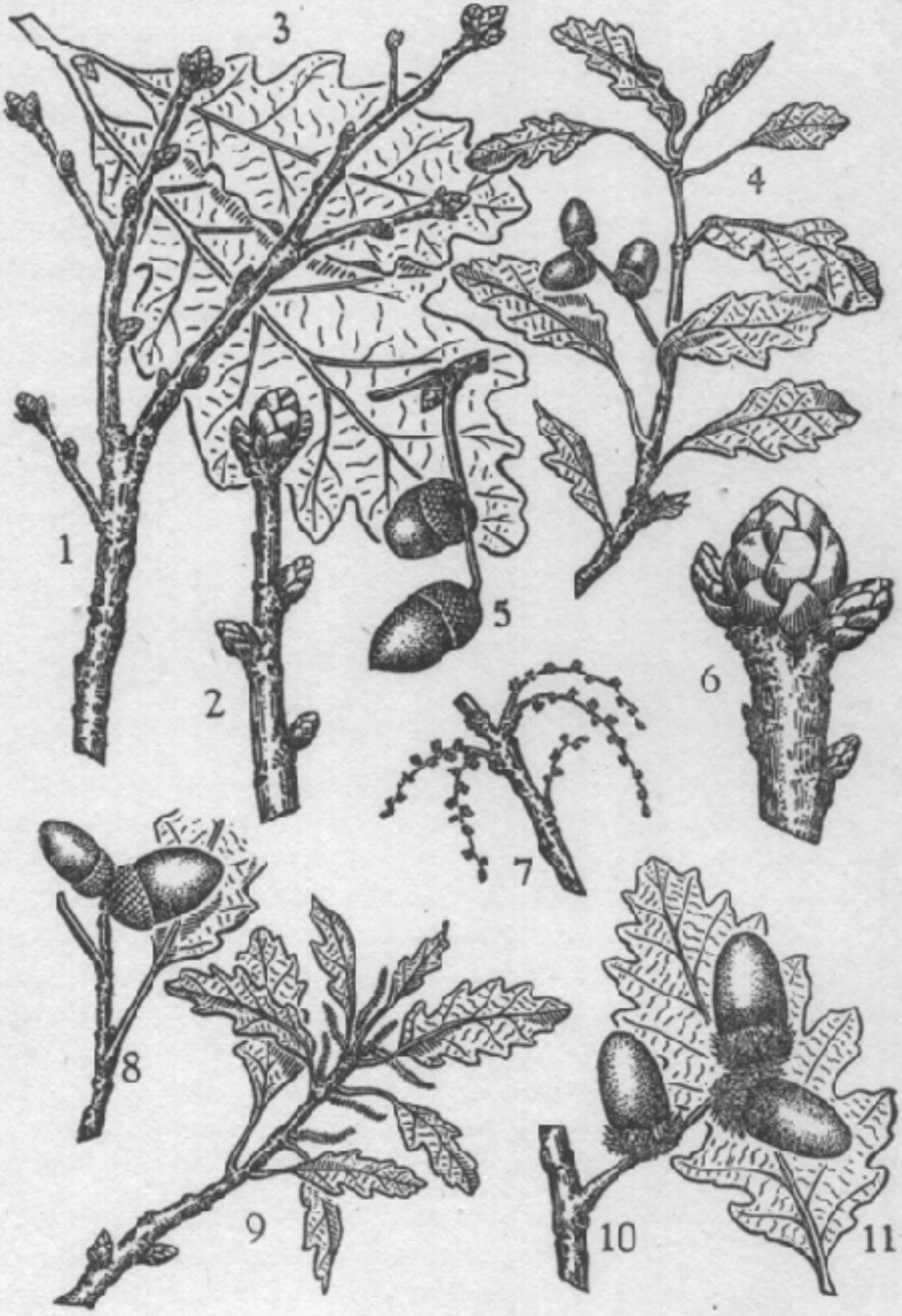

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16


1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17


1
2
3
4
5
6
7
8
9
10
11
12
13
14
15


1
2
3
4
5
6
7
8
9
10
11
12
13
14


1
2
3
4
5
6
7
8
9
10
11
12
13

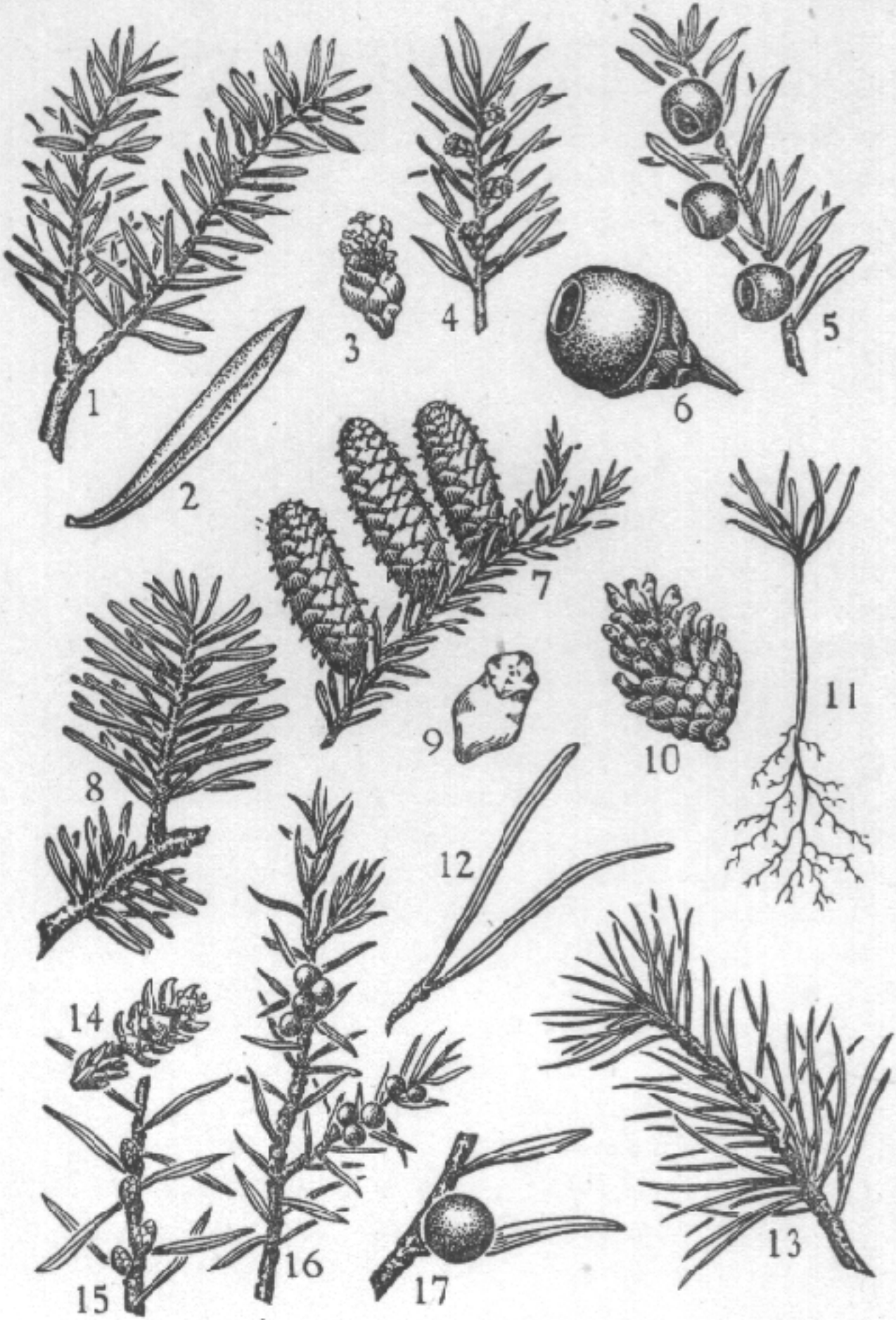

1
2
3
4
5
6
7
8
9
10
11


1
2
3
4
5
6
7
8
9
10
11
12
13
14


1
2
3
4
5
6
7
8
9
10
11
12


4
5
3
1
2
6
7
8
9
10
11


1
2
3
4
5
6
7
8
9
10
11
12


1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17


1
2
3
4
5
6
7
8
9
10
11
12


1
2
3
4
5
6
7
8
9
10
11
12
13
14

SHRUBS

A shrub can best be defined as a plant never rising to the dignity of a tree, yet possessing woody stems as distinct from an herbaceous plant, the stems of which are not of a woody character. A great number of such plants are to be found in this country, the majority loosing their leaves in the autumn, but a few are evergreen, such as the Privet, Broom and Ivy.

Without shrubs the countryside would be strangely bare for their presence is noticeable everywhere in the form of hedges, bushes and undergrowth, in woods and copses. The chief point about a shrub is usually the absence of a trunk, as distinct from a tree, the main branches springing direct from the roots thus giving the plant a bush-like appearance. The branches, or stems, are sometimes very long, reaching a height of from five to twelve feet, as is the case with the Dogwood or the Alder Buckthorn. On the other hand shrubs of a dwarf nature are plentiful, the Whortleberry for instance rarely rises more than a foot to eighteen inches above the ground. Still another type of shrub common in the countryside is the climbing variety such as the Honeysuckle or Bramble, which delights in putting forth its long, creeping stems over the tops of neighbouring plants in an endeavour to reach the light.

Like the trees, the various shrubs can be identified equally well during the leafless months of the year by an examination of the twigs and bush as well as by the presence of thorns or spines and general characteristic features relating to the particular plant.

DOGWOOD (Cornus sanguinea).

(Plate 17).

A common shrub usually attaining a height of from six to eight feet, with thick, woody stems. Although woods constitute the favourite haunts of this plant it is sometimes in evidence in hedgerows and thickets.

The leaves are oval in shape with strongly marked ribs curved downwards towards the tips; the leaf-stalks short and attached to the stems in pairs opposite one another.

The small white flowers (figs. 7 and 10) have four petals and are borne in dense clusters at the extremities of the branches.

The berries of this bush are about the size of a pea and appear in clusters at the extremities of the branches (fig. 8). They are round, of a shiny black colour and each is borne on a stalk of its own and grows erect. When the leaves turn to a rich red-brown in the autumn, the bunches of berries are conspicuous against such a colourful background and are still more in evidence when the branches are bare of foliage. They are extremely bitter to the taste.

DOUGLAS FIR (Pseudotsuga Douglasii).

(Plate I).

One of the most recently introduced species of fir growing plentifully in Britain, having been brought from the North American continent during the early part of the nineteenth century. In its native haunts where it is found at altitudes of over 7,000 feet, it rises to a height of 150 to 200 feet, but in this country the largest specimens rarely exceed 100 feet and this height is only attained in suitable situations. It appears to flourish best on the western coasts of the British Isles and it is here that it attains its maximum size.

The Douglas Fir possesses a distinct pyramidal outline, with a straight trunk covered with thickish, reddish brown bark, with deep, irregular fissures. The lower branches are sturdy and horizontal and often bent down under the weight of the thick foliage.

The needles measure from one to one-and-a-quarter inches in length, are of a rich green colour, paler beneath and set singly and very thickly round the stems (fig. 15).

The cones hang downwards at the extremities of the branches and may be distinguished by their large size as they measure up to four inches in length. They are elliptical in shape and each scale possesses a claw-like bract.

The timber of the Douglas Fir is of great economic value as it is used extensively for masts for ships owing to the straightness of the trunk and durability of the wood.

Specimens of this fir in America have been found of great age. The average life of this tree is estimated at well over 500 years.

ELDER (Sambucus nigra).

(Plate 6).

A small tree seldom exceeding 30 feet in height and this height is only attained in particularly favourable conditions, the average being 10 to 15 feet. It appears to flourish in a variety of situations. It is a native of Britain and found plentifully throughout the country especially when growing in the form of a bush.

The trunk is straight and the bark moderately smooth, of a greenish grey colour. The branches are straight and somewhat thick and usually angular in form, but very fragile and easily snapped owing to their being hollow and containing a soft pith. These hollow tubes are often used by country folk for making into whistles.

The leaves (fig.13) can always be distinguished from those of the Ash (Fraxinus excelsior), by the number of leaflets. The Ash usually has five pair and a terminal leaflet, while the Elder has but two pair and a terminal one. They are set opposite one another on either side of the leaf-stalk. In general form they are oblong, narrowing suddenly to a long, drawn-our point at the apex. The margins are regularly toothed and the colouring is a very dark green.

When in blossom the Elder is easily recognised by the masses of creamy white flowers, borne in dense clusters (fig. 1l).

Few shrubs or trees display a greater profusion of conspicuous fruit as the Elder for, in the autumn, the bush may be at once recognised by the branches of familiar Elder-berries. They appear in dense clusters at the extremities of nearly all the twigs and produce a mass of shiny, black berries. The berries themselves are round and borne on short stalks of their own and are the size of a small pea. When mature they are of a pale purple hue becoming a deep purple and finally, when ripe, assuming the characteristic black, and are used in the manufacture of Elder-berry wine.

ELM (Ulmus Campestris).

(Plate 8).

The stately Elm is often looked upon as a tree distinct in itself, whereas, there are no less than eighteen varieties. The differences between these various types are only to be found in detail, and a classification of each can only be arrived at by botanists. For a general survey of its characteristics, for the purpose of identifying it from other trees, it may best be described as a tree of immense proportions. When not surrounded by others of its kind, and given plenty of space to expand, it will attain a height of well over a hundred feet, with a large spreading crown.

Of the two commonest varieties of Elm, namely the Wych Elm and the Common Elm, the latter is by far the more plentiful and is found in all parts of the British Isles, growing in the form of single specimens of gigantic trees to the bushy, shrub-like Elms so abundant in hedgerows and in small copses. Although preferring a rich loam soil, especially in the low-lands, it seems to flourish also in almost any soil in a variety of situations, for it is a hardy tree. The roots are small as compared with its size and, in consequence, the tree is unable to withstand the force of strong gales, which accounts for its being seldom found at great elevations, or in particularly exposed places.

The trunk is straight but often forked some distance from the ground and is covered with rough, corky bark, deeply fissured, not unlike that of the Oak, but dark grey in colour. The branches are long and slender, with the lower ones very spreading. These lower limbs will often be found to have broken off and, if examined, will not, as expected, be decayed but perfectly sound. This is a distinct peculiarity of the Elm. The lower part of the trunk is usually thickly clothed with stool-shoots .

The Elm, like the Birch (Betula Alba), has remarkably small leaves in proportion to a tree of its size, hence the twigs may be observed covered with thick-set, bead-like buds (fig. 2). Each bud is composed of numerous scales which, unlike the majority of trees, expand before the leaves are ready to open. On some of the stems will be seen the flower-buds (fig. 3), and these are set low down on the twigs and are slightly larger than the leaf-buds.

The leaves (fig. 4) are broad at the base, narrowing towards the apex with a long drawn-out point. The margins are bi-serrated, that is, each tooth is itself toothed, the main teeth being curved towards the apex of the leaf. The leaf-stalk is short and the leaves are arranged alternatively on the stems.

The flowers appear several weeks in advance of the leaves and are not over conspicuous, being in the form of small, purplish clusters (fig. 6).

The fruit of the Elm is interesting, insomuch as it develops and falls in the spring, and not during the autumn as is the case with most trees. Each seed is enclosed in two flat, semi-circular receptacles growing close together and hanging in dense masses from the extremities of the twigs. When young they are a rich yellowish green, and so numerous that they give the tree the appearance of being in leaf. On ripening they turn to a light brown colour. These wings are particularly light in weight when dry, and are carried away, bearing the seed, during the winds of April.

COMMON OR FIELD MAPLE (Acer campestre).

(Plate 9).

Of the three varieties of Maple found throughout this country the Common Field Maple, as it is usually termed, is by far the most plentiful but, unlike the Sycamore or Norway Maple, it does not attain a great height and can only be described as a small tree, seldom exceeding thirty feet. It is much better known when growing as a bush in hedgerows and in woods. It is generally considered a native tree, and appears to be at home in almost any soil and in a variety of situations, especially when growing in the form of a shrub. When attaining the proportions of a tree the trunk is clothed with brown bark, very rough and deeply fissured, but as the tree ages it becomes smooth. The branches are long and spreading; the twigs corky.

The leaves (fig. 12), are large and five-lobed, the lower lobes much smaller than the others. They are broad and rounded, and divided roughly into three sub-divisions, the margins without teeth. The upper surface of the leaf is a rich green but the under sides are paler. The leaf-stalk is long and very slender and usually of a reddish colour.

The seeds (fig. 11) are winged as is the case with all the species of Maples, and this form of fruit is known as a " key," the wings being attached to the fruit in order to assist in its dispersion. Unlike the Sycamore the wings are horizontal while those of the latter are placed at an angle. The seedcases each contain one seed and are joined together at the stalk, but when mature split into two and each seed-case is then ready to fall. The wings retard the progress of its descent by revolving as it falls and so allowing time for the wind to carry it away. Most of the fruits, however, will be found just beneath the tree, for it requires a strong wind to carry these winged seeds any great distance.

SWEET GALE (Myrica gale).

(Plate 19).

The Sweet Gale, or Bog Myrtle, hardly ever grows beyond the proportions of a large bush, the most usual specimens being small bush shrubs, two to three feet in height. Although fairly well distributed throughout the country the Sweet Gale is to a certain extent local in habits owing to its particular liking for moist situations and for this reason is generally found on damp moors and in bogs, as the alternative name Bog Myrtle suggests.

The leaves generally are broadly lance-shaped, of yellowish green colouring above and paler beneath, and the upper sides are covered with a resinous substance (fig. 13) . A sure means of establishing the identity of this shrub is by the characteristic toothed margins of the leaves for the margins are entire, that is without teeth for most of their length but minutely toothed near the apex. The leaf stalks are very short and arranged alternately on the branches.

The flowers are produced in the form of catkins; the male flowers (figs. 10 and 11) being about an inch in length and standing erect in small clusters on the stems. The female catkins (figs. 12 and 13) are much smaller, not more than a quarter of an inch long, and covered with fine hairs.

The berry-like fruit is peculiar for its coating of waxy resin.

GORSE (Ulex Europoeus).

(Plate 19).

The prickly nature of this plant, together with the absence of any true leaves, makes it one of the best-known shrubs growing in this country. It is a true native of Britain and widely distributed, being equally plentiful on the coast as well as inland. The maximum height is eight feet and it develops into a thick impenetrable bush, sometimes growing in dense masses or else scattered in single bushes on a hillside or common, and being an evergreen lends a warmth to the countryside throughout the winter.

Also known as Furze and Whin it is, undoubtedly, one of the most beautiful of all the wild, flowering shrubs.

The Gorse is in full bloom about April, but it is a well-known fact that this plant blooms practically all the year round, that is to say, there are few weeks in the year when a sprig of flowering Gorse cannot be discovered. The large trusses of deliciously fragrant flowers are a truly beautiful sight, and the bright yellow blossoms are very showy even at a distance against the deep green of the foliage. These blossoms are borne on very short stalks on the larger spines which constitute branches (fig. 8).

It is impossible to confuse it with the Broom (Sarothamnus scoparius), owing to its characteristic prickly nature. Although at first sight it appears to be entirely leafless there are, however, small leaves produced on the young plants (fig. 7), but as the shrub grows older, these are replaced by spines which thickly cover the whole plant (fig. 9).

The seeds resemble miniature peas and are of an olive green colour and very shiny. They are contained in small black pods measuring just under an inch in length, which when ripe, split with a loud crackling sound often heard when one is near a Gorse bush in the autumn. Having released the seed the two valves, which composed the pod, curl up.

GUELDER ROSE (Viburnum Opulus).

(Plate 16) .

The Guelder Rose never attains the dimensions of a tree but is a large bush and plentiful in most districts and in certain chalky and dry localities is very abundant. For the greater part of the year it may be recognised by the flowers and fruit for, long after the leaves have fallen, the stems are profusely decorated with bright red berries.

The tapering branches are very numerous, smooth and dark brown in colour; the twigs and young shoots are of a more reddish brown.

The leaves (fig. 11), are moderately large and three-lobed, the margins unequally and coarsely toothed. They are set opposite one another on the stems. The colouring above is dark green, the under sides paler and, when young, covered with down. In the late summer and autumn the leaves assume a beautiful deep crimson hue and the colours constitute one of the chief features of this plant for it is a highly ornamental addition to the landscape.

In the spring the flowers (figs. 10 and 12) are particularly conspicuous, being exceedingly plentiful and composed of dense clusters of brilliant white blossoms, appearing in May.

The fruit of this shrub is produced in the form of a berry and may at once be distinguished from that of the Elder (Sambucus nigra) by being oval in shape instead of round, and of a bright scarlet colour, that of the Elder being black. The berries (fig. 13) are produced in small clusters, borne on longish stalks and are of a fleshy nature. These showy fruits appear in August and September but are most in evidence in October when the tree has shed its leaves.

HAWTHORN (Cratoegus Oxycanthas).

(Plate 15).

Perhaps better known as the May from the familiar clusters of white blossoms appearing during the month of the same name. Although most commonly seen in the form of a bush, the Hawthorn at times attains the proportions of a tree in varying sizes and height, but only in suitable conditions does it reach its maximum height of 40 feet. Occasionally large Hawthorn trees of considerable age with a trunk over ten feet in diameter are observed in parks or growing by the wayside, but the Hawthorn bush is the more familiar sight throughout the countryside. Its most common use is for hedging owing to the tangled nature of its branches which become particularly dense as the result of years of cutting back .

A Hawthorn tree has a crooked and often warped trunk covered with grey, fissured bark; the branches are very twisted and the bark rough, and of a blackish brown colour. When growing as a bush in a wild state the branches, like those of the Blackthorn (Prunus spinosa), are intertwined and very twisted and the bush becomes a tangled mass of impenetrable twigs clothed with sharp, strong thorns (fig. 6).

The Hawthorn leaf (fig. 5) is always distinguishable from those of other trees and shrubs although it varies somewhat in form, for the lobes of which it is composed differ in shape and number and, therefore, a leaf may have anything from three to seven lobes. In some instances the lobes may be cut nearly to the mid-rib of the leaf, while in others the divisions are less deeply cut. The margins of the leaf are usually very irregularly toothed towards the apex of the lobes. The colouring is bright green especially in the case of the new spring leaves, but as they age throughout the summer the colour becomes darker and the texture of the leaf tough. The leaf-stalks are thin and vary greatly in length.

The well-known clusters of May flowers (fig. 1) are composed of numerous delicate blossoms (fig. 2) borne on long stalks, and have five rounded petals and possess a fragrant scent. These produce later the profusion of bright red berries known as Haws (fig. 3). These familiar berries are often exceedingly plentiful on Hawthorn bushes during the autumn and winter. The usual colouring is a bright crimson, but in certain cases this tint is replaced by golden-yellow and even black. The shape varies, too, to some extent, but the most common form is oblong, although round berries are not unusual, but whatever shape or colour these berries may be, they are always very shiny, polished and hard. They appear in clusters varying greatly in number from three to as many as a dozen, and each is borne on a long slender stalk growing from the extremities of the twigs.

The berries ripen to the characteristic crimson colour while the foliage is still on the tree and remain long after the leaves have fallen, when they are most in evidence.

HAZEL (Corylus Avellana).

(Plate 14).

The Hazel is a large shrub or small tree but never attaining the proportions of the majority of trees found in this country for its seldom exceeds a height of 15 feet, the average being 12 feet. It may be observed in hedgerows or in small clumps, but is more usually seen growing as a coppice or as undergrowth in an oak or ash wood, where it often becomes a dense shrubbery. In woods, where it has been cut down for stakes it is a common sight to witness the long, slender, erect shoots springing from around the stump often creating an impenetrable jungle of stalks reaching ten to twelve feet in height, with smooth stems covered with shiny, reddish or greenish brown bark.

The leaves (fig. 2) have very short stalks and the veins are very strongly marked on the under sides, and both the upper and undersides are rough and hairy. They are arranged alternately on the stems and the characteristic lop-sided base to the leaves always afford a sure means of identification. The margins are very irregularly toothed. They turn to a rich warm yellow in the autumn and remain on the branches long after the other trees are bare of foliage.

The twigs are covered with very numerous fine hairs, and the bark on the young shoots is ash-coloured and comparatively smooth; the colouring of the bark on the older stems is a mixture of mottled grey and brown.

The catkins of the Hazel are much in evidence owing to their presence on the shrub throughout the winter. The buds bearing the male catkins open in September and October, and the small catkins remain about one third grown until February when they expand, and when fully mature are some one and a half to two inches in length. They are borne on the extremities of the branches and hang downwards in twos or threes, seldom singly. In a particularly mild season they may open as early as December, but in a normal year are at their best in early March. They are composed of a great number of scales of a pale yellowish brown and are loosely constructed, slightly hairy and covered with bright yellow pollen (fig. 4).

The female flowers resemble a large leaf-bud and are borne at the ends of separate branches (figs. 5 and 1). These too, are present on the shrub during the winter but not until the spring do they put forth the bright red stigmas at their apex. The bud-like flower is very inconspicuous and requires close examination in order to distinguish it from the true leaf-buds.

The Hazel is a typical nut-bearing tree and the fruit is the familiar edible cob-nut. It is contained in a green, leafy cup with peculiarly ragged edges, the nut always being exposed at the top and this fact will always distinguish it from the Filbert, which is entirely covered by the leaves of the cup. The nuts are green when young but when mature are a clear yellowish brown, very shiny and of a woody texture, the edible kernel being contained inside. They are usually borne in twos and threes on long stalks of their own and hang downwards beneath the branches, often obscured by the foliage.

HONEYSUCKLE (Lonicera periclyminum).

(Plate 18).

An exceedingly common woodland shrub of the climbing variety, well known for its attractively coloured flowers and fragrant scent. It always flourishes best when able to obtain plenty of sunshine and for this reason is most abundant in clearings in woods and in hedges bordering woods or copses, as well as in wayside hedgerows. Providing it is able to obtain plenty of support on which to climb it often becomes a large shrub with a thick woody stem of many years growth. The leaves are some of the first to appear in the spring, but the blossoms rarely open before June.

The smooth, oval leaves (fig. 2) are arranged in pairs opposite one another on the long, trailing stems.

The familiar flowers (fig. 1) are borne on long, slender stalks, usually in pairs and are white, inclined to yellowish, streaked with crimson.

The fruit of the Honeysuckle takes the form of berries and these are in evidence in September and October. They are oblong in shape and arranged in a tight cluster, facing outwards, all round the central stem (fig. 3); the average number of berries to each bunch is twenty. When young they are greenish, but on ripening become a bright purplish-red. They usually hang downwards at the ends of the stems and are partially concealed by the bract, or flower leaf.

The Honeysuckle is also known, in many parts of the country as Woodbine.

HORNBEAM (Carpinus Betulus).

(Plate 8).

The Hornbeam may best be described as having the leaves of the Elm, and the trunk of the Beech. It is often mistaken for an Elm, which it closely resembles, but the chief distinguishing features are in the leaves and trunk. The latter is smooth barked while the Elm is rough; the leaves are larger and less broad at the base in proportion to their size and less pointed at the apex, the margins of both leaves are, however, bi-serrated, or double-toothed.

Under favourable conditions it attains a height of 70 feet or more, but is often pollarded, that is, having had the principal branches lopped, similar to the Willows, in which case it assumes a stumpy appearance. The foliage is very dark green and the withered autumn leaves often remain on the branches throughout the winter, as is the case with the Beech. It is most usually observed on heavy clay soil where it flourishes best and attains its maximum height.

The buds of the Hornbeam are very similar in appearance to those of the Beech, but can always be distinguished from the latter by their lying closer to the twigs, as well as being somewhat shorter in length (fig. 10). The branches are long and tapering, often crossing each other. The leaves, as already described, somewhat resemble those of the Elm and are dark green above and very slightly hairy beneath and fastened to the twigs by short leaf-stalks, and are late in opening.

The Hornbeam bears both male and female catkins on the same twigs, the former being situated an inch or two from the ends of the shoots, while the female catkins grow at the extremities of the twigs.

The male catkins do not appear until the spring and develop rapidly, soon reaching maturity and are composed of numerous shield-like scales, widely separated, and between each are the pollen-laden flowers. The scales are yellowish green with red tips and the pollen bright yellow. As a rule these male catkins hang on the under sides of the twigs in pairs and are one and a half inches long.

The female flowers are less abundant and somewhat different in structure, being very slender, loosely constructed, and smaller, that is, three-quarters of an inch in length. After fertilization, however, they develop into long, dangling flowers up to three inches in length and are then much more conspicuous, terminating the slender shoots, and borne on a stalk two inches long.

The fruit (fig. 7) is very similar to that of the Elm.

HORSE CHESTNUT (Aesculus Hippocastanum).

(Plate 11).

The Horse Chestnut will thrive in almost any situation but is most partial to rich, loamy soil and is only entirely absent on land of a dry, chalky character. By the very nature of its ornamental beauty it seems to be a popular choice for planting in parks, and it is in such places that it often develops to a tremendous size.

It is not a native tree, having been introduced from Southern Europe and Asia at least three centuries ago, but has become well established and acclimatized in this country, and although not attaining to such proportions as in its native domain does, however, reach a height of over 60 feet. The most outstanding feature is the magnificent, broad, pyramidal shape of the crown.

The branches grow horizontally to the trunk, spreading out in wavy lines terminating in a graceful upward sweep. The trunk is straight and covered with smooth, scaly bark. The colour of the bark varies according to the situation in which the tree is growing, for in damp woods it will be a rich green, while in towns and cities, is blackish brown, but the usual colouring is light greyish brown, tinged with green.

As the leaves appear early, the buds are further developed than those of the majority of trees and the surest means of identifying the Horse Chestnut during the winter months is by noticing those unusually large buds set on the ends of the thick twigs (fig. 6). They are a remarkable example of the wonderful way in which provision is made to protect the tender, immature leaves from the dangers of frost and damp to which they are at first exposed. Numerous tough scales sealed with a gummy substance constitute the protective covering (fig. 4), and when the sun has attained sufficient strength to soften this gum, the leaves split asunder their winter coverings and the ground beneath the tree may often be strewn with these cast-off scales.

During the summer months the leaves (fig. 5), always prove a certain means of distinguishing the tree owing to their characteristic compound structure and large size, an average specimen measuring some fifteen inches across and in some instances as much as twenty inches. The leaflets are broad at the apex, narrowing towards the base. The terminal leaflet is the largest; the lower ones the smallest and the margins are irregularly toothed; the usual number of leaflets to each leaf is seven and more rarely five. The leaf-stalks are very long and tough, usually measuring ten inches in length .

The flowers (fig. 1) do not appear until several weeks after the leaves are unfolded, and they present a truly beautiful sight, being tall, pyramidal clusters of white blossoms tinged with red and yellow. They stand erect on the extremities of the branches and as an ornament to the landscape the Horse Chestnut, when attired in its spring drapery, can lay claim to being unrivalled in picturesque beauty.

The fruit of this tree scarcely requires a detailed description, for it is familiar to almost everyone and known by its country name of " conker." The prickly burrs (fig. 8), containing the nut, may be seen in various stages of development throughout the summer and when ripe fall to the ground unopened, while others split and release the shiny, chestnut-brown nut, the ground beneath the tree often being covered with these richly-coloured seeds.

The name Horse Chestnut is said to have originated from the fact that the nuts are given to horses as medicine, but others believe that the curious marking on the stems resembling a horseshoe (fig. 7), are

responsible for the same.

IVY (Hedera Helix).

(Plate l6).

This familiar plant is, perhaps, most in evidence climbing on the trunks of trees and over walls and old buildings and is a typical evergreen shrub, very abundant in all parts of the country. In some cases where it has become well established, the woody stems are found to be as much as six to eight inches in diameter. Being a hardy shrub able to withstand all weather conditions in this country, it often lives to a great age, and at times it saps the life from the tree which constitutes its support and completely covers it. So tightly does it cling by means of the peg-like rootlets (fig. 4), that it is almost impossible to pull it away.

The leaves (fig. 2) are thick and composed, as a rule of five lobes, but this number varies, for in some cases the lobes are entirely absent. The leaves are acutely pointed and very glossy in appearance.

The flowers (fig. 3) do not appear until late in the year and the small yellowish-green blossoms (fig. 5) form dense clusters on long stems of their own. The fruit, when ripe, is greatly in evidence, being bunches of small, black berries (fig. 1).

An interesting fact relating to the Ivy is that the flowers do not appear until October or November and, therefore, the fruit is not developed until two months later. The early spring months are, in consequence, the season for the familiar Ivy berries which are inconspicuous when young as the colouring is almost the same shade of green as the leaves. When mature, however, they become a dark blue-black hue. The berry (fig. 6) is soft and, if cut open, will reveal greenish flesh. It is round and about the size of a pea and appears in clusters on the ends of the stems, each berry with a stalk of its own.

JUNIPER (Juniper communis).

(Plate 2).

This fir is most plentiful on chalky soil and is found chiefly on chalk downs and slopes, especially u-here there is not a great amount of other vegetation. It has a wide distribution throughout Europe and is a true native of Britain. Quite unlike other members of the fir tribe, the Juniper is not a tall tree, indeed, it is more often found in the form of a shrub. When growing as a tree its maximum height is 20 feet, but such specimens are only found in sheltered valleys, for at higher altitudes it becomes more bushlike. At still greater elevations, and in exposed positions, it is very stunted and attains little more than 6 to 8 feet in height.

The wood is useful as it possesses the valuable property of taking a high polish but, owing to the small size of the tree, the timber cannot be obtained in sufficiently large quantities to be of any great economic value. A large number of these shrubs has, however, been transplanted from the open country and used as ornamental hedges, for which purpose they prove ideal, being thick and evergreen.

The bark is somewhat similar to that of the Yew (Taxus baccata), peeling off in thin flakes, but is of a more reddish colour. The slender branches are very numerous and thrust upwards giving the tree, or bush, a conical shape.

The leaves are very narrow, sharply pointed, and dark green in colour. They are best described as awl-shaped and set round the stems in threes (figs. 15 and 16). In May the male and female flowers appear on separate trees, the former (figs. 1+ and I 5), take the form of small catkins, covered with pale yellow pollen, while the female flowers, resembling small buds, are insignificant and borne in the axils of the leaves.

Unlike the fruit of most firs that of the Juniper is in the form of a berry instead of a cone. These berries (figs. 16 and 17) are soft and fleshy and of a deep blue-black colour but do not ripen until the second year.

LARCH (Larix europea).

(Plate I) .

The excellent quality of the timber obtained from this tree accounts for the extensive Larch plantations distributed plentifully throughout the country, and for this reason the Larch is more familiar to the majority than the less abundant varieties of firs. Its wide distribution gives the impression that it is a native of these shores, whereas its haunts are in eastern Europe. Its introduction to this land was not until the early seventeenth century, when at first it was grown solely for ornamental purposes, and not until a hundred years later was the work of extensive planting undertaken in the form of plantations sometimes covering many acres of land, and containing several million trees to each wood.

The Larch possesses several characteristics which afford ample means of identification and assist in singling it out from the host of wild and cultivated conifers to be found in this country. During the winter months its recognition is assured for, unlike other firs, it sheds its leaves, or needles, and the branches remain bare until the following spring. This often gives rise to the false idea that plantations of Larches are dead when observed during this period of the year, as one naturally associates the firs with the evergreen trees, but a closer examination will show that the young shoots, when snapped, are " green."

In appearance the Larch varies somewhat according to the locality in which it is growing for the trees observed growing singly put forth more branches lower down on the trunk than those found in plantations. A typical tree may be described as lofty with a straight, tapering trunk, clothed with spreading branches, the whole possessing a pyramidal form. Being a tree of immense growth, the height is between 80 and l00 feet.

The slender branches grow around the trunk alternately, and are furrowed and knotted. The shoots are of two kinds, some long and sparsely covered with leaves, while the shorter ones are slower growing and thickly covered with needles which appear in tufts arranged along the twigs at frequent intervals (fig. 1). A distinguishing feature of the leaves of the Larch, as compared with other firs, is their softness. These leaves (fig 6), are narrow and about an inch in length, developing early in the spring, at which time the colouring is bright green and very conspicuous, while in the autumn they turn brown, wither and fall off.

The flowers (figs. 2 and 7) occur individually on the stems, the male and female on the same tree, the latter developing eventually into very numerous, small cones (fig. 3). These at first are a delicate green gradually turning brown throughout the summer and autumn, but not ripening until the following spring, the twigs, therefore, are covered with these cones throughout the winter. The seed, (Figs. 4 and 5) is winged enabling it to be dispersed by the wind.

Although the Larch is not an evergreen tree, it is interesting to note that, unlike the parent tree, the seedlings retain their leaves during the winter for several seasons.

Plate 1 Larch: Spruce: Cedar: Douglas Fir:

1-7 Larch

1. Twigs in summer
2. Flowering spray
3. Cone
4. Seed
5. Section of seed
6. Leaf
7. Female flower

8-12 Spruce

8 Cone

9 Section of seed

10 Seed

11 Leafy spray

12 Flowering spray

13-14 Cedar

13 cone

14 Leaves and twig

15 Douglas Fir - spray with cone

.

Plate 10 Birch: Beech

1-6 Birch

1 Leaves

2 Twigs in winter

3 Bud enlarged

4 Female catkins

5 Male catkins

6 Young winter shoot

7- 11 Beech

7 Nuts in case

8 Beech nut

9 Flowers

10 Twigs in winter

11 Buds enlarged

Plate 11 Horse Chestnut: Sweet Chestnut

1-8 Horse Chestnut

1 Flowers

2 Flowers enlarged

3 Lateral bud

4 Leaf-bud enlarged

5 Leaf

6 Twig in winter

7 Dormant bud

8 Fruit

9-13 Sweet Chestnut

9 Leaves

10 Winter twigs

11 Fruit

12 Flower

13 Flower enlarged

Plate 12 Ash: Plane

1-6 Ash

1 Leaves

2 Fruit enlarged

3 Winter twig

4 Fruit

5 Flower bud

6 Flowers

7-10 Plane

7 Female flowers

8 Twig in winter

9 Male flowers

10 Leaves and flowers

Plate 13 Mountain Ash: Service Tree

1-6 Mountain Ash

1 Flowering shoot

2 Flowers enlarged

3 Berries

4 Winter twig

5 Bud enlarged

6 Fruit

7-11 Service Tree

7 Twig in winter

8 Bud

9 Flowers and leaves

10 Fruit enlarged

11 Fruit

Plate 14 Hazel: White Beam

1-6 Hazel

1 Bud enlarged

2 Leaf

3 Twig in winter

4 Male catkins

5 Female flowers

6 Cob nut

7-10 White Beam

7 Flowering shoot

8 Flower enlarged

9 Leaf

10 Fruit

Plate 15 Hawthorn: Dog Rose: Blackthorn

1-6 Hawthorn

1 Flowers

2 Flower in detail

3 Spray of fruit

4 Haws- berries

5 Leaf

6 Twig in winter

7-9 Dog Rose

7 Leaf

8 Hip berries

9 Flower

10-16 Blackthorn

10 Flowering shoot

11 Flower

12 Fruit

14 Spray with fruit

15 Section of berry

16 Sloe berry

Plate 16 Ivy: Blackberry: Guelder Rose: Wood Nightshade

1-6 Ivy

1 Fruit

2 Leaves

3 Young flowering shoot

4 Climbing stem

5 Flower

6 Berry

7-9 Blackberry

7 Leaf

8 Fruit

9 Flowers

10-13 Guelder Rose

10 Flowers

11 Leaf

12 Flower in detail

13 Fruit

14-17 Woody Nightshade

14 Flowering shoot

15 Fruit

16 Flower

17 Leaf

Plate 17 Privet: Spindle Tree: Dogwood: Alder Buckthorn: Purging Buckthorn

1-4 Privet

1 Young shoot and cluser of fruit

2 Fruit

3 Flowers

4 Leaf

5-6 Spindle Tree

5 Young flowering shoot

6 Flower

11-13 Alder Buckthorn

11 Spray of leaves

12 Flower

13 Fruit

14-15 Purging Buckthorn

14 Flowers

15 Flowering shoot

Plate 18 Honeysuckle: Barberry: Clematic: Butcher's Broom

1-3 Honeysuckle

1 Flowers

2 Leaf

3 Fruit

4-7 Barberry

4 Flowers

5 Fruit

6 Fruit detail

7 Flowering shoot

8-10 Clematis

8 Flowers

9 Flower detail

10 Leaf and fruit

11-14 Butcher's Broom

11 Fruiting spray

12 Fruiting spray enlarged

13 Fruit detail

14 Flower

Plate 19 Broom: Whortleberry: Gorse: Sweet Gale

1-3 Broom

1 Seed pods

2 Fowers

3 Flower in detail

4-9 Whortleberry

4 Fruit

5 Shoot with fruit

6 Young seedling

7 Older seedling

8 Flower

9 Flowering shoots

10-13 Sweet Gale

10 Male catkin

11 Spray of male catkins

12 Female catkin

13 Spray of female catkins

Plate 2 Yew: Silver Fir: Scots Pine: Juniper

1-6 Yew

1 Young shoots

2 Leaf enlarged

3 Flower

4 Flowering shoot

5 Fruit

6 Berry enlarged

7-9 Silver Fir

7 Cones

8 Young shoot

9 Seed

10-13 Scots Pine

10 Cone

11 Seedling

12 Needles

13 Young shoot

14-17 Juniper

14 Flower

15 Flowering shoot

16 Fruit

17 Berry enlarged

Plate 3 Pedunculate Oak: Sessile-flowered Oak: Turkey Oak

1-7 Pedunculate Oak

1 Twigs in winter

2 Buds

3 Leaves

4 Young shoots

5 Acorns

6 Bud enlarged

7 Flowers

8-9 Sessile-flowered Oak

8 Acorns

9 Flowering shoot

10-11 Turkey Oak

10 Acorns

11 Leaf

Plate 4 Lime: Alder

1-6 Lime

1 Buds enlarged

2 Flowers

3 Flower enlarged

4 Leaf

5 Twig in winter

6 Flower

7-12 Alder

7 Twigs in winter

8 Leaves

9 Female catkins

10 Male catkins

11 Buds

12 Immature male and female catkins

Plate 5 Sallow: Osier Willow: Crack Willow

1-8 Sallow

1 Male catkins

2 Immature male catkins

3 Female catkins

4 Immature male catkin enlarged

5 Bud enlarged

6 Leaves

7 Twigs in winter

8 Buds

9-10 Osier Willow

9 Young shoot in leaf

10 Twigs in winter

11-14 Crack Willow

11 Male catkin

12 Female catkin

13 Leaves

14 Twig in winter

Plate 6 White Willow: Elder

1-7 White Willow

1 Twigs in winter

2 Buds

3 Leaf

4 Male catkins

5 Flower of female catkin

6 Female catkin

7 Flower of male catkin

8-14 Elder

8 Elder berries

9 Enlarged flower

10 Berries enlarged

11 Flowers

12 Buds

13 Leaf

14 Twigs in winter

Plate 7 White Poplar: Black Poplar: Aspen

1-2 White Poplar

1 Winter twigs

2 Young shoots bearing catkins

3-7 Black Poplar

3 Female catkin

4 Male catkin

5 Leaf

6 Bud

7 Young shoot

8-12 Aspen

8 Male catkin

9 Female catkin

10 Buds

11 Twigs in winter

12 Leaves

Plate 8 Elm: Hornbeam

1-6 Elm

1 Buds

2 Twigs in winter

3 Leaf bud and flower bud

4 Leaves

5 Fruit

6 Flowers

7-11 Hornbeam

7 Fruit

8 Young shoot with male catkins below and femal catkins above

9 Leaf

10 Buds

11 Seedling

Plate 9 Sycamore: Norway Maple: Field Maple

1-6 Sycamore

1 Flowers

2 Winged fruits

3 Leaf

4 Winter twigs

5 Bud enlarged

6 Seedling

7- 9 Norway Maple

7 Winged fruits

8 Leaf

9 Flowers

10- 12 Field Maple

10 Buds

11 Winged fruits

12 Leaves and flowers

LIME (Tilia Europoea).

(Plate 4).

Although the Lime is not a native tree of Britain it must have been introduced a long way back in history, for references relating to its existence in this country are several hundred years ago. By its remarkable shapeliness it can be claimed a picturesque and stately tree and for this reason it has long been a custom to make use of Limes in the formation of avenues.

The Lime is a tree varying greatly in size according to the environment and quality of soil in which it is growing, but an average specimen, if able to put forth its deep roots into light loam, will average 70 to 90 feet. Being a large tree its singularly pyramidal shape may be clearly observed, and this perfect design is composed of a multitude of long, slender branches springing from the trunk low down and growing in an upward direction.

The trunk is straight, tapering and covered with smooth bark. It is easily distinguished before the familiar leaves appear by the young shoots which bear the leaf-buds, for these are smooth and without any hairs (fig. 5), the bark on the older wood being slightly rougher. At close quarters the buds (fig. 1) provide one of the surest means of identification during the winter months as they are large, very rounded, and of a slightly lighter brown than the stems. A bud appears at the end of each twig and numerous others are arranged down the stems; those at the extremities of the twigs being somewhat larger and in a more advanced state of development than the lateral buds.

The leaf of the Lime (fig. 4) is distinctly heart-shaped and thin, the edges acutely serrated with the exception of that portion near the leaf-stalk which is entire, or smooth. The apex of the leaf is very acute being drawn out to a sharp point. The upper sides are a rich green, while beneath the colouring is paler and velvety. The leafstalk is one and a half to two inches long and are very delicate and almost transparent and a beautiful golden green in colour. It is one of the earliest trees to put forth its foliage in the spring and, incidentally, one of the first to shed them.

The flowers of the Lime (figs. 2 and 3) are a distinct feature of the tree owing to their peculiar growth and strong scent. From the axils of the leaves, towards the ends of the young shoots, there springs a bract, or leaf, which is as long as the leaves of the tree but differing a great deal in shape and colour, for it is very narrow and of a greyish green. Down the centre is a prominent mid-rib, but no veins, and from the centre of this rib grows a long stem, on the end of which is borne the flowers. These are small and of a pale green colour and although very profuse in the spring, harmonize so closely in colouring with the young green foliage as to render them not over conspicuous.

The fruit (fig. 6) takes the form of a small berry-like seed which is at first pale green becoming reddish brown when ripe.

MOUNTAIN ASH (Pyrus Aucuparia).

(Plate 13).

The second part of the popular English name is superficial as this tree is not an Ash but on]y resembles the Common Ash (Fraxinus excelsior) by having somewhat similar leaves. Also known as the Rowan, it is a small tree seldom exceeding 20 feet in height. It flourishes well in exposed situations on bleak hillsides and when growing by itself is a picturesque and stately tree, but when found in the woods it is unable to top the neighbouring trees and is: in consequence, stunted and the branches undeveloped.

Its likeness to the Ash is seen in the leaves but a closer examination will always distinguish the two trees. The leaf, like the Ash, is compound, that is, made up of a number of leaflets (fig. 6), which are arranged in pairs opposite one another, and are stalkless with the exception of the terminal one which possesses a leaf-stalk of its own, which distinguishes it from the Ash. There are usually seven leaflets, dark green in colour with the margins very regularly serrated. The whole leaf is altogether more delicate in form than that of the Ash. In the autumn the leaves turn from a beautiful yellow and red to brown.

The flowers (figs. 1 and 2), appealing in May and June, are a conspicuous part of the Mountain Ash or Rowan, being very numerous and borne in large clusters and possessing a particularly pleasant scent; the fruit consists of bright red berries.

The trunk is slender and covered with smooth grey-coloured bark; the branches are very smooth and slender, and have an upward tendency.

Although named the Mountain Ash this tree is not confined to mountainous regions alone, but is common throughout the country and seems to grow- well in almost any soil.

WOODY NIGHTSHADE (Solanum Dulcamara).

(Plate 16).

A common woodland climbing plant with small, but conspicuous purple flowers hanging downwards. The main stem is often thickish and of a woody nature according to the age of the plant.

When not growing near other plants on which to climb, the Woody Nightshade often becomes a small bush some three to four feet in height. Stoney ground appears to suit it best and for this reason it is commonly observed growing on waste land especially in a chalky neighbourhood.

The flowers (figs. 14 and 16) are bell-shaped and composed of five petals. The leaves (fig. 17) are large, oval, pointed and arranged in pairs. The leaves as well as the flowers have an unpleasant smell.

In September the berries (fig. 15) ripen to a shiny black colour.

.

NORWAY- MAPLE (Acer platanoides)

(Plate 9).

This species of Maple is the latest introduction from the Continent although it was introduced about the middle of the seventeenth century, and may be found in most parts of the country. It varies greatly in size according to the locality in which it is growing, therefore the height may be anything from 30 to 60 feet.

The leaves (fig. 8) will always afford a means of distinguishing this tree from the Common or Field Maple (Acer campestre), for, although they are five-lobed and of similar size, the lobes are cut into triangular divisions, each division drawn out to a sharp point. The colouring is of a much lighter green than the Field Maple.

OSIER WILLOW (Salix viminalis).

(Plate 5).

The common Osier is a plentiful species of Willow and, like the majority of the members of this family of tree, it flourishes in moist situations and is often common along watercourses and on marshland. It is more often observed as a shrub than a tree owing to its having been cut down in order to allow the shoots to grow from the stump and, when so treated, appears an unruly bush with long slender branches growing outwards and then upwards in a graceful curve. When growing as a tree it seldom exceeds 30 feet in height.

The trunk and older branches have a smooth bark of a greenish or brownish colour. The twigs and new shoots are yellowish green with a purple-red tint and very long and slender. The buds are small and woolly.

It can best be distinguished from the other Willows by the very long, narrow, lanceolate-shaped leaves (fig. 9) of a dull green above and covered with fine silky, white hairs beneath, making the under sides appear white. The margins of the leaves are entire, or only very finely toothed and revolute, that is, the edges are rolled back.

PLANE (Plantanus Orientalis).

(Plate 12).

Essentially a tree of the towns and cities and is seldom met with in the open country. Its introduction to Britain is of comparatively recent date. Although closely related to each other there are two distinct varieties, one having its haunts in Asia and known as the Oriental Plane, the other having been introduced from America and accordingly named the Occidental Plane. The latter, however, is not a common tree in Britain and the specimens most often seen are the Oriental variety. Many species of trees have been planted in towns for ornamental purposes but no tree can stand the adverse conditions of city life like the Plane, and for this reason it is planted extensively by roadsides even in the heart of London. In spite of the fogs, soot and flag-stones almost surrounding the bole, the Plane thrives well and is a familiar sight in all our big cities. In such circumstances it is, as a rule, heavily lopped and is seldom allowed to attain its maximum growth, so a typical example of this tree must be sought for in parks and gardens.

It is a large tree rising to a height of 70 to 90 feet, the circumference of the trunk being ten to twelve feet. When growing in country gardens, the bark is light brown, but in cities the soot gives the trunk a blackish appearance. A peculiarity of the Plane is the fact that it sheds its bark every autumn, the bark flaking off leaving light yellow patches.

Many assume that the plane is a variety of Sycamore or Maple owing to the resemblance of the leaves to those two trees, but there is no relation between them whatsoever, as an examination of the flowers and fruit will at once reveal.

The branches, like the trunk, shed their bark and are not wide-spreading but somewhat short in proportion to the height of the tree.

The leaves of the Plane (fig. 10) are five-lobed and very regular in size and shape, being drawn out at the apex to a sharp point. The lobes are again divided into three lesser divisions. The colouring is a bright green and the leaf has five well-defined main-ribs, one to each of the five lobes.

The fruit supplies an unmistakable means of identifying the tree and distinguishes it from the Sycamore and Maple. The seed-buttons, as they are termed, are small, round balls produced on long stems, the male and female flowers being borne on the same tree.

Plate 1 Click here for legend

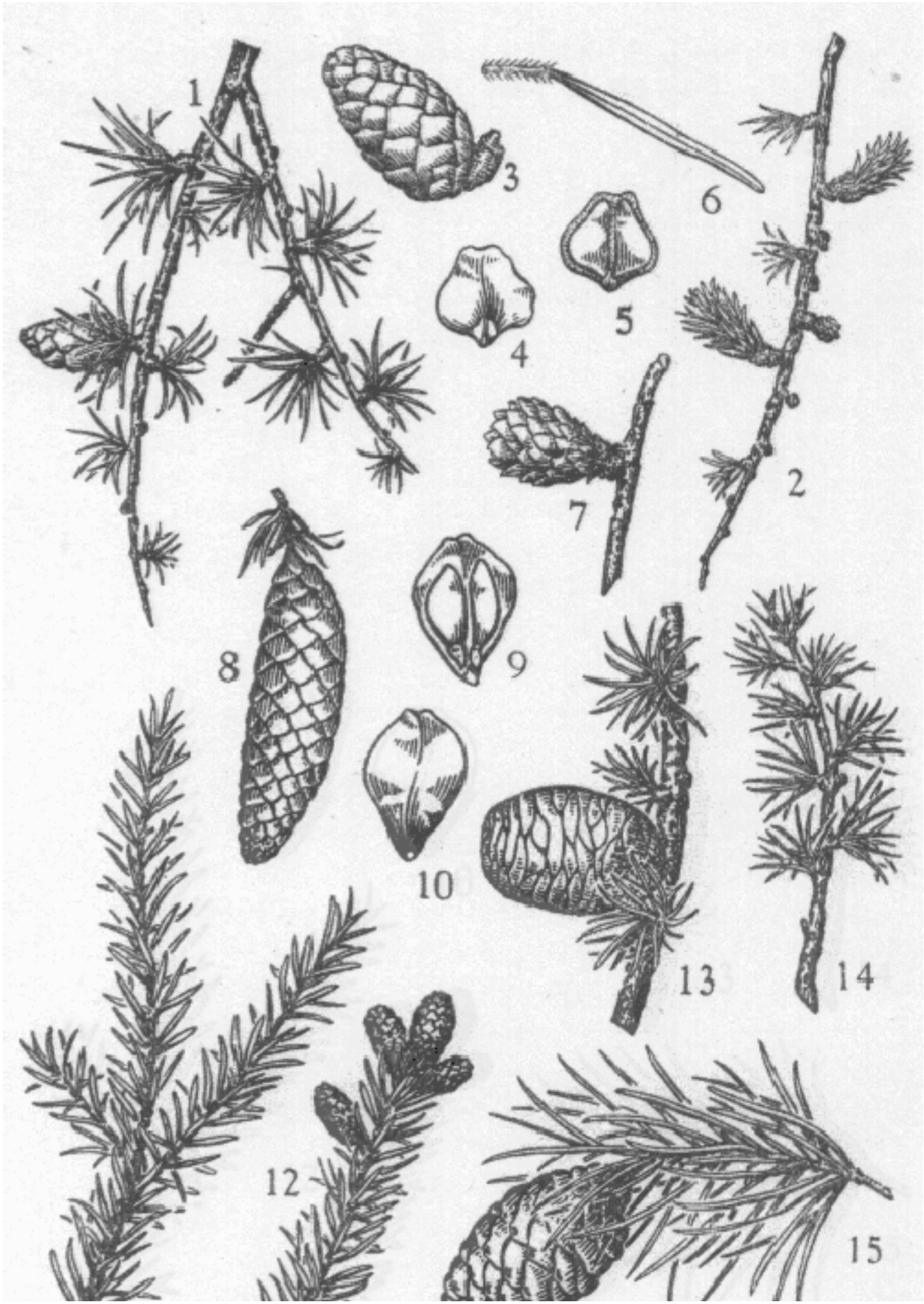
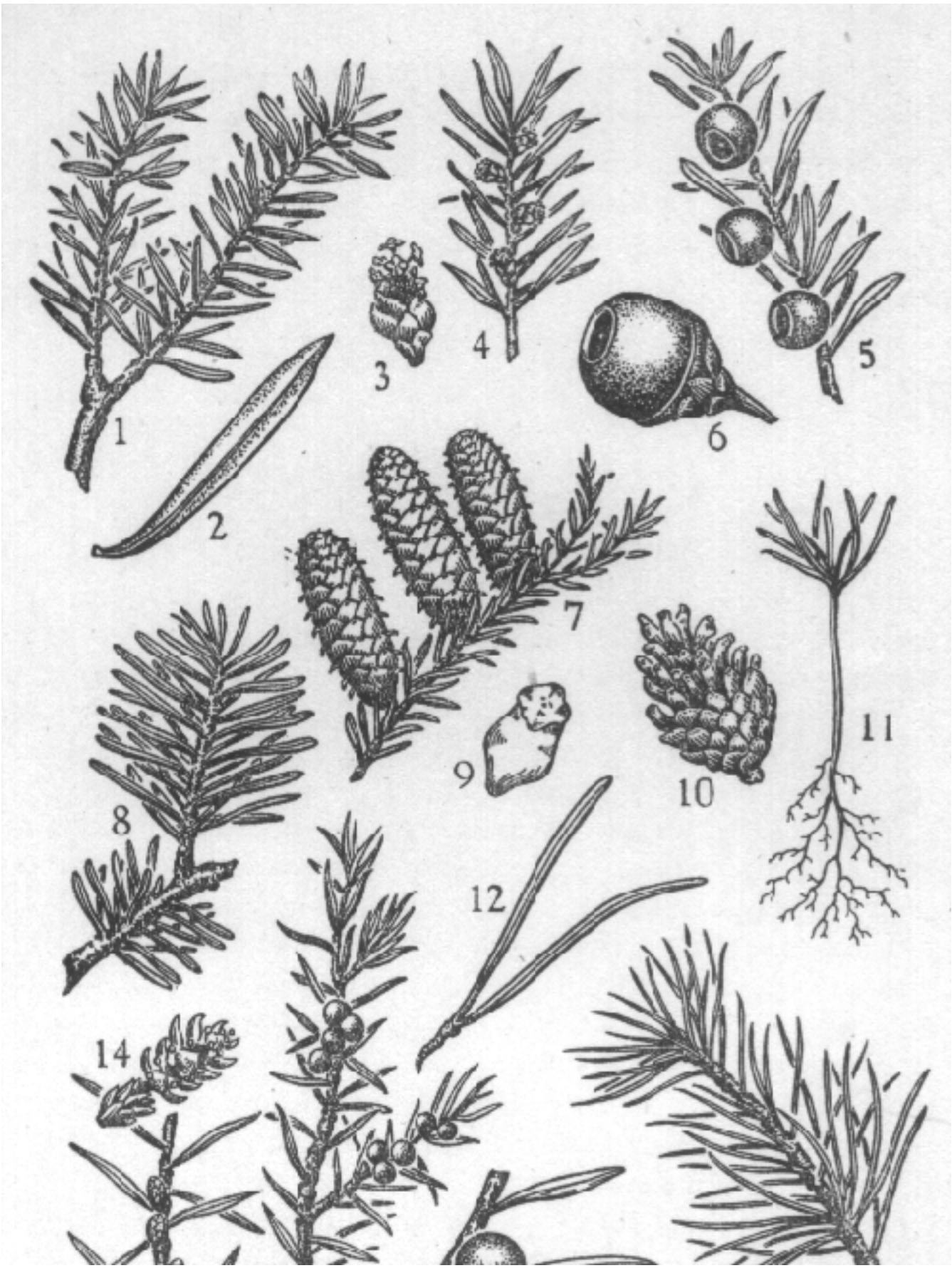


Plate 2



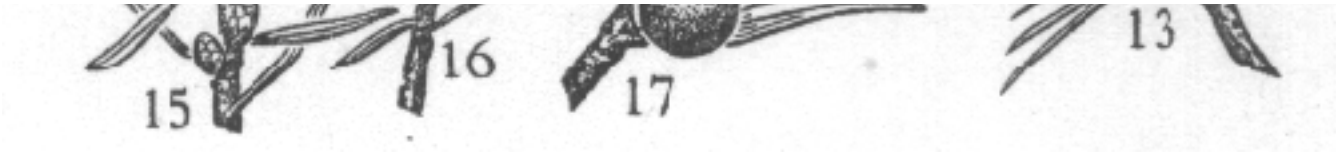


Plate 3

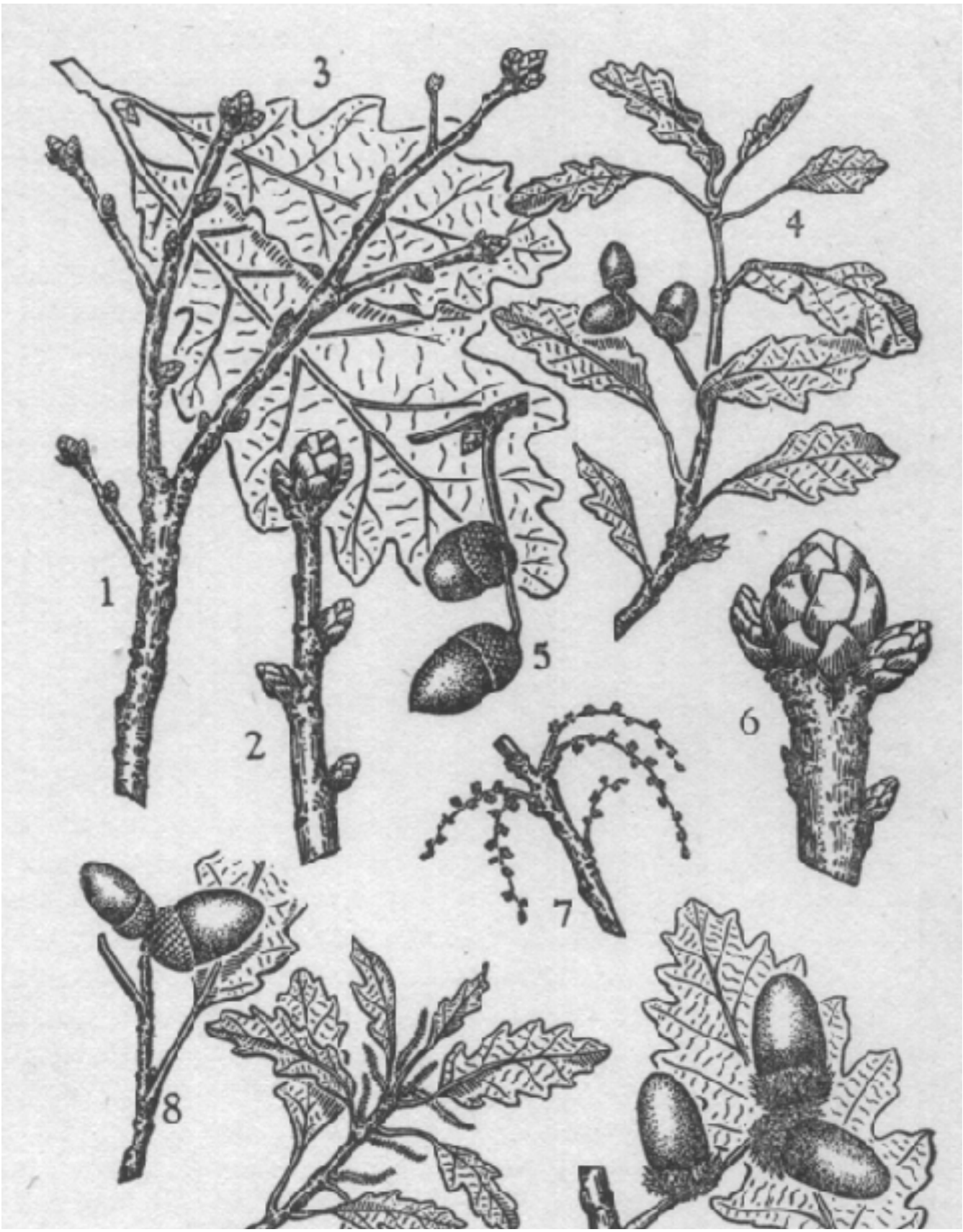


Plate 4

Plate 5

Plate 6

Plate 7

Plate 8

Plate 9

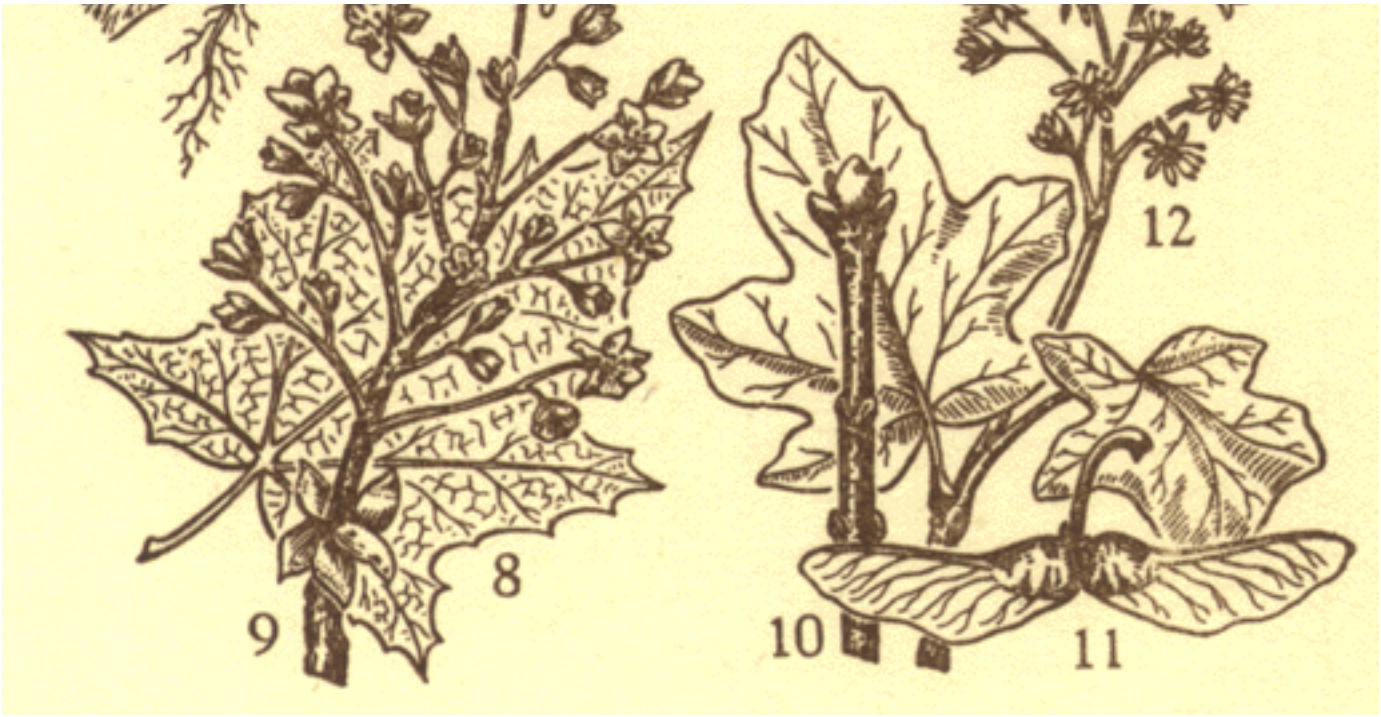


Plate 10


1
2
3
4
5
6
7
8
9
10
11

Plate 11

Plate 12

Plate13

Plate 14

Plate 15

Plate 16

Plate 17

Plate 18

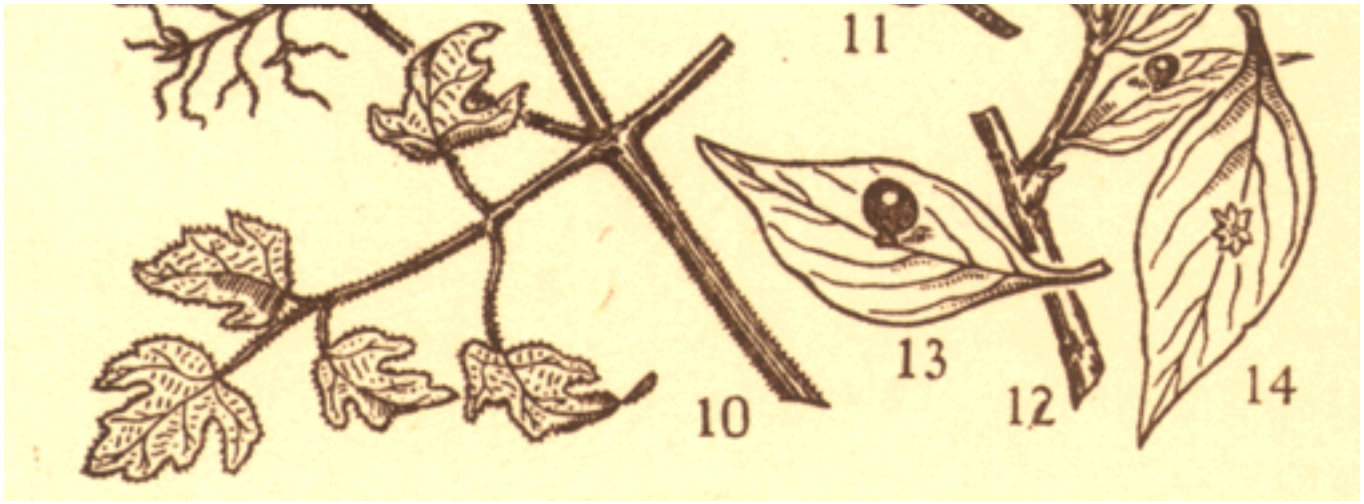


Plate 19

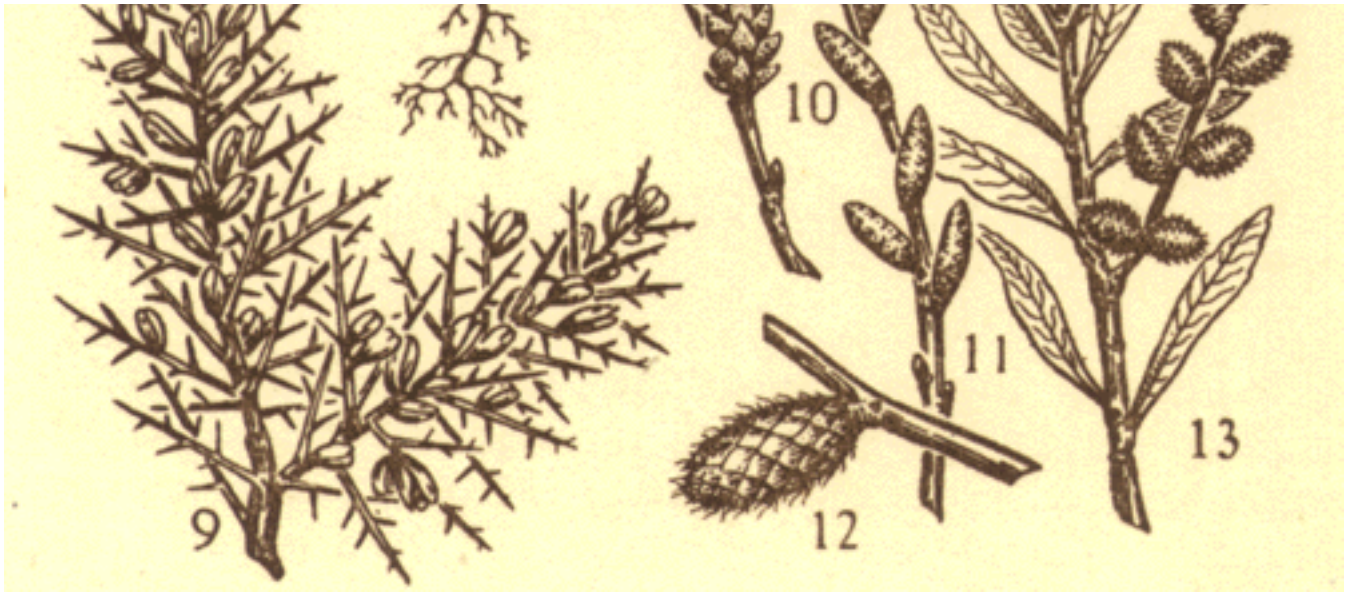

9
10
11
12
13

Plate 10 Click here for legend

Plate 11 Click here for legend

Plate 12 Click here for legend

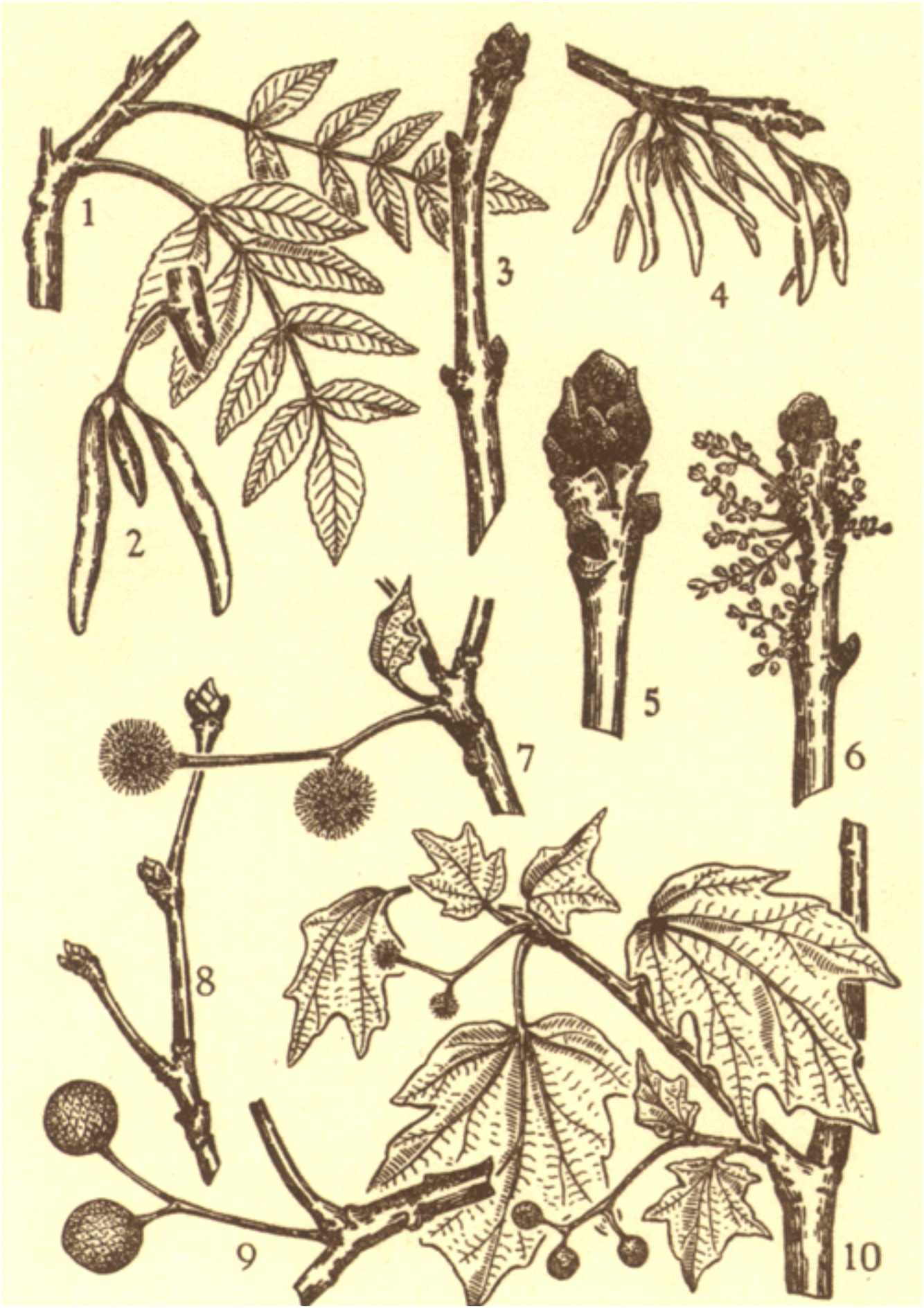


Plate 13 Click here for legend

[Plate 14 Click here for legend](#)

Plate 15 Click here for legend

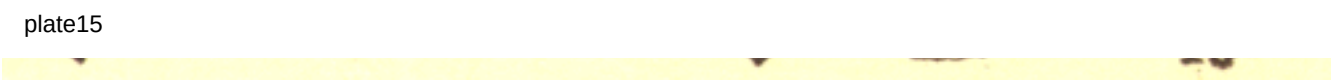
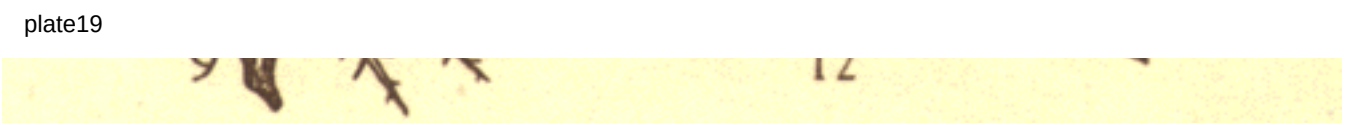


Plate 16 Click here for legend

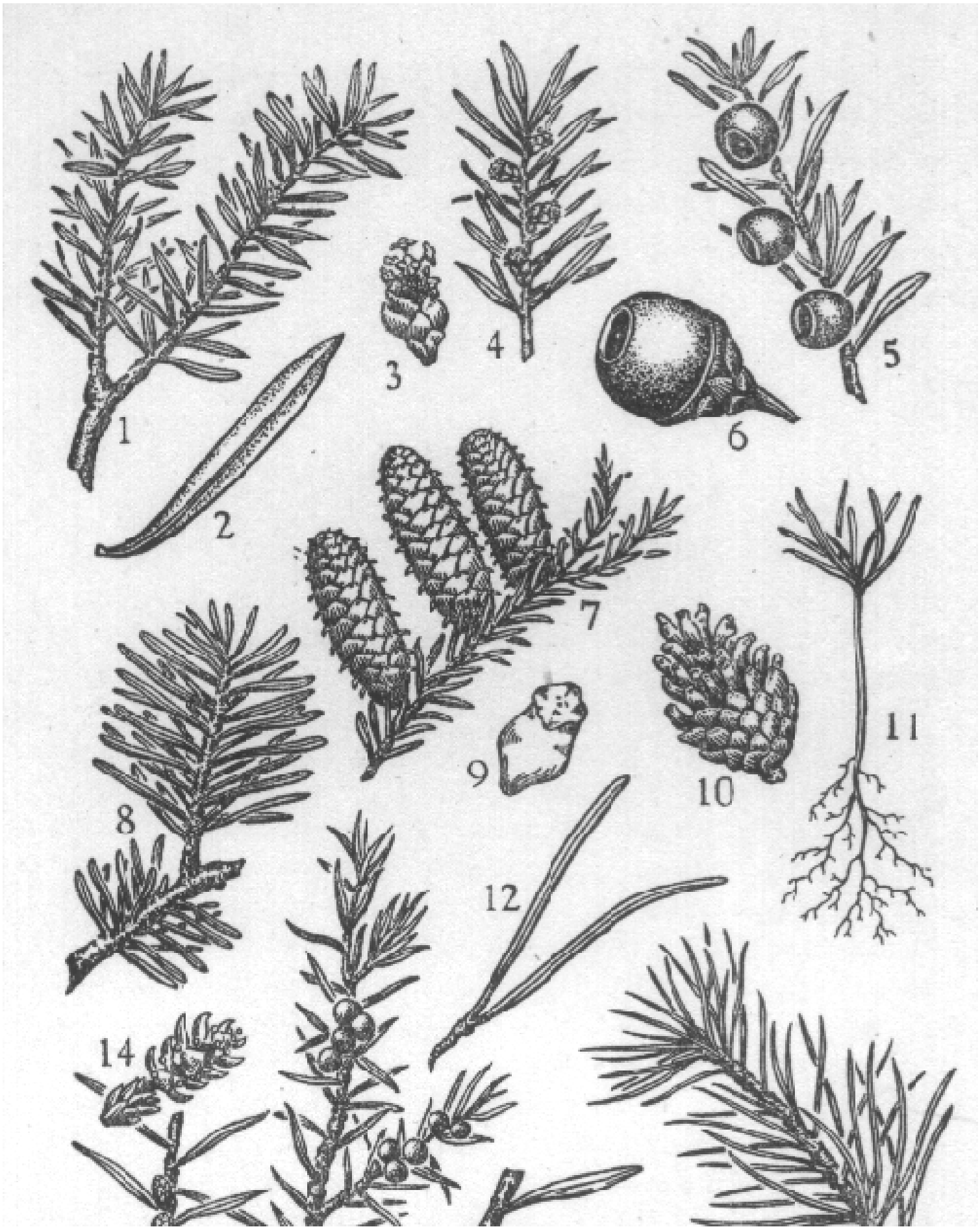
[Plate 17 Click here for legend]

Plate 18 Click here for legend

Plate 19 Click here for legend



[Plate 2 Click here for legend]



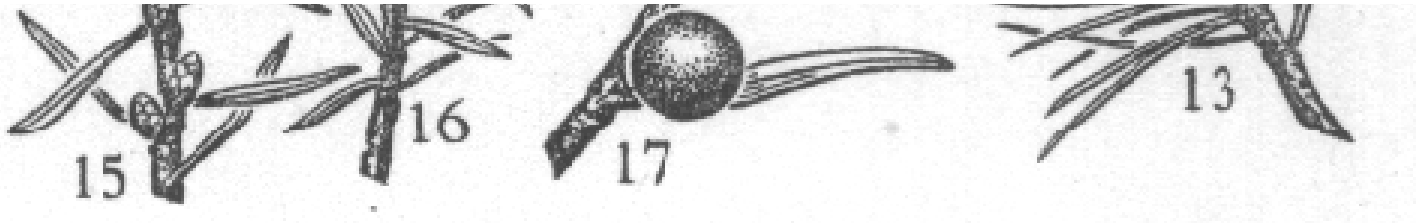

15
16
17
13

Plate 3 Click here for legend

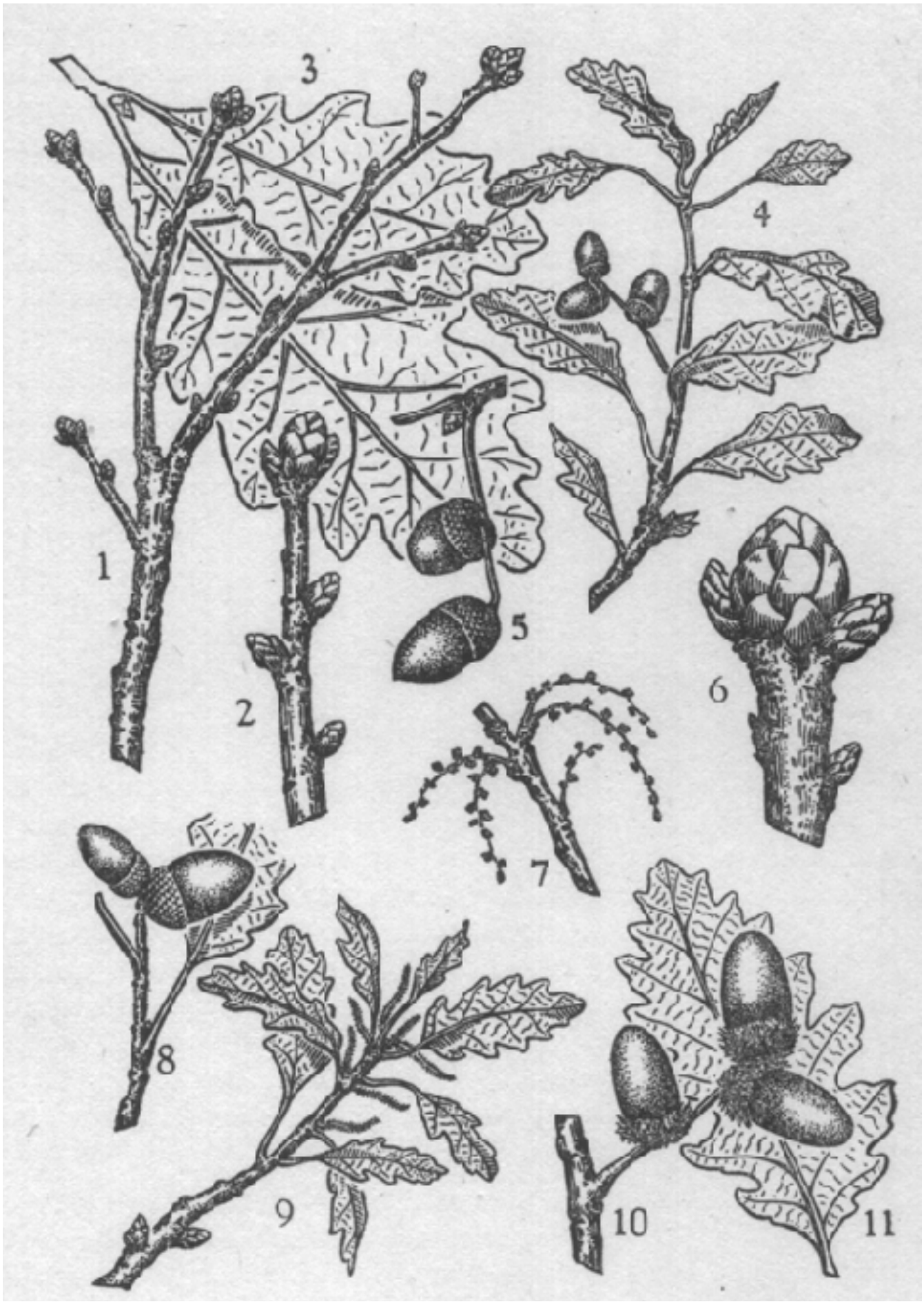


Plate 4 Click here for legend

Plate 5 Click here for legend

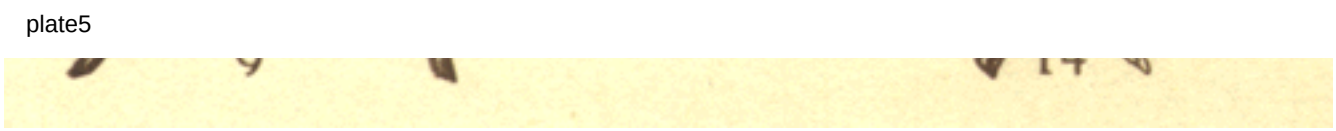
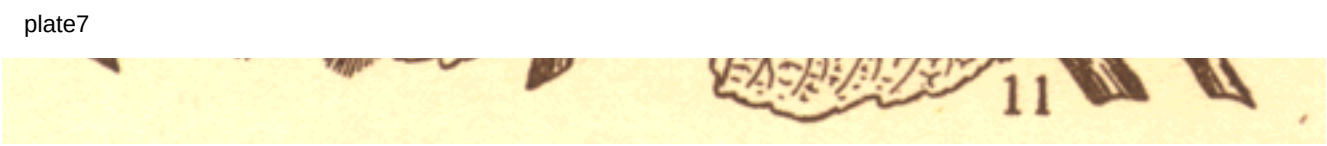


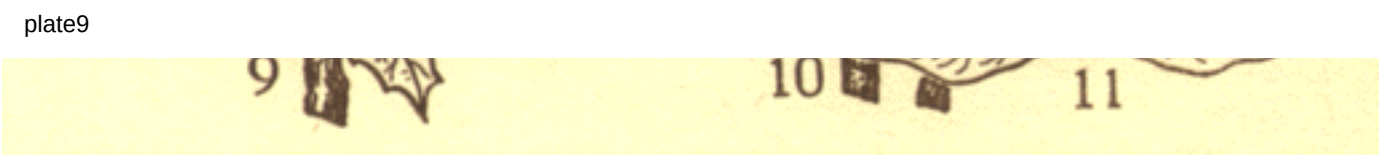
Plate 6 Click here for legend

Plate 7 Click here for legend


11

[Plate 8 Click here for legend]

Plate 9 Click here for legend


9
10
11

PRIVET (Liqustrum vulgare).

(Plate 17).

Being an evergreen shrub the Privet is always more in evidence during the winter months for then it is easily distinguished, but during the summer it is frequently overlooked among the host of other foliage. Many of the situations in which this shrub may be found, but it is, perhaps, most often encountered adorning the hedges and is abundant throughout the countryside.

The branches are smooth and slender, and the leaves (fig. 4), which grow in pairs opposite one another, are thinner and more pointed than those of the garden privet, and glossy in appearance.

The Privet flowers profusely and the blossoms (fig. 3) are borne in large clusters on the terminal twigs and each flower is composed of four petals.

During the autumn and winter the bush is covered with clusters of fruit in the form of berries, so numerous as to be very conspicuous. It is a shiny, black berry (fig. 2), about the size of a pea, and borne in clusters (fig. 1), standing erect on the extremities of the stems, with several small stems springing from the main stalk, each bearing a berry. When a Privet bush is seen in flower it is little wonder that the fruit is so plentiful for the masses of white blossoms are exceedingly abundant.

The berries are purple when young but, on ripening, turn to so dark a purple as to appear black, and if cut open will be found to consist of a fleshy texture of a lighter purple colour. The clusters of fruit remain on the bush throughout the winter.

PURGING BUCKTHORN (Rhamnus cathartieus).

(Plate 17).

A less plentiful variety of the Alder Buckthorn (Rhamnus frangula), and more local in distribution, but, like the latter is usually found in woods and thick hedgerows where it will attain the proportions of a large bush, twelve to fifteen feet in height. Although the leaves differ somewhat from those of the Alder Buckthorn, enabling the two plants to be distinguished quite easily, another unmistakable distinction is the fact that the Purging Buckthorn is thorny, the other variety having no thorns at all.

The leaves are elliptical in shape and very finely serrated round the margins (fig. 15), the apex is sharply pointed and usually hooked, while the veins, branching from the mid-rib, arch towards the apex of the leaf. The colouring is dark green above and paler beneath, and they are arranged on the stems almost opposite one another.

The flowers (fig. 14) are very insignificant, being small and of a yellowish green tint, sometimes appearing singly but more often in small clusters. They have four petals and are borne on short flower-stalks in the axils of the leaves.

DOG ROSE (Rosa Canina).

(Plate 16).

Perhaps the most familiar and favourite shrub to be found in the hedges in this country, being well known for its distinctive blossoms with their particularly delicate fragrance. As a rule it is observed growing in the company of other bushes rather than by itself as its nature is to climb over neighbouring plants by thrusting out its long, prickly shoots in an endeavour to reach the top of the hedge.

When not in bloom the Dog Rose can be distinguished by the leaves (fig. 7) which are very similar to those of the cultivated varieties, being a compound leaf composed of from five to seven leaflets. Each leaflet is broad at the base, pointed at the apex; the margins evenly serrated, and, with the exception of the terminal one, are set on the main leaf-stalk in pairs opposite one another.

The large, conspicuous flowers (fig. 9), are composed of five petals and sometimes borne singly on the stems or else in clusters of threes or fours. Although the usual colouring is a delicate pink, the tints of the blooms vary according to the soil and districts in which the plant is growing.

The well-known fruits of the Wild or Dog Rose are known as Hips and being large are greatly in evidence especially when the branches are bare of leaves. Three to five berries appear on long stalks of their own at the ends of the main stems. They are oblong in shape, very hard and shiny, and of a bright red (fig. 8). They appear towards the end of August and often remain on the bushes throughout the winter and are then very conspicuous in hedgerows and woods, often being the only cheerful colouring against a background of bare twigs.

A variety of Wild Rose, namely the Sweet Briar, or Eglantine as it is sometimes called, can always be distinguished by the fact that the leaflets are much smaller and more delicate and the margins bi-serrate, apart from the familiar scent of the leaves.

SALLOW (Salix Caprea).

(Plate 5)

The Sallow is a member of the large tribe of Willows and may be described as a shrub or small tree, but never attaining a great size. It is also known as the Goat Willow or Palm and, like the other members of this family, is a water-loving tree and usually found in low-lying districts in the vicinity of water courses. There are, however, several varieties of Sallow, some never developing into more than a bush, and these are very plentiful in hedgerows and often found growing in small clumps and known as the Common Coppice or Hedge Sallow.

When growing in favourable conditions it attains a height of from 20 to 40 feet. The majority of the branches spring direct from the roots and stand erect and are slender and covered with smooth dark greenish brown bark. The young branches are long and supple and the wood soft and elastic, which accounts for their having been used for hundreds of years for basket making and similar purposes. The Sallow is unmistakable for its almost total absence of small clustering twigs.

A characteristic feature of this species of Willow is the colouring of the leaves which are bluish-green above and pale bluish-white beneath and, when young, are exceedingly velvety and covered with silky white hairs. In shape they are broadly elliptical and the margins are entire (fig. 6).

The buds (figs. 5 and 8) are small, short and pointed, one at the extremity of each branch and the remainder arranged in a spiral round the stem, these being known as the lateral, or side buds.

The Willows are well known for their catkins and perhaps the most beautiful of all adorn the Sallow and appear well in advance of the leaves, making them all the more conspicuous. When young they are at their best, being silver-coloured and resembling a large silken bud (figs. 2 and 4). It is these catkins which are some of the first flowers to be visited by the bees when they reappear from their winter sleep, and for this reason Willows and Sallows have, for a long time, been planted in apiaries to afford the bees a supply of nectar when the honey in the hive is almost exhausted after the winter.

The catkins of the Sallow are exceedingly beautiful and usually attract most attention in the spring for the delightful silver-grey colour, when young, is accounted for by the fact that the scales are provided with long hairs which form a tuft of very silky texture and are arranged, like the leaf buds, spirally down the stems. When ripe the male catkins open into very fluffy flowers (fig. 1), slightly oval in shape and covered with bright yellow pollen and stand erect on the stems. The female catkins (fig. 3) are much narrower and twice as long with the hairs, or stamens, much shorter. They are always borne towards the ends of the stems.

These catkins are the familiar Pussy Palm.

SCOTS PINE (Pinus sylvestris).

(Plate 2).

The Scots Pine is one of the few firs native to these shores, and well distributed throughout Britain. The numerous small pine forests, especially in the southern half of the country, are the result of planting for this fir is usually found in small clumps in its truly wild state. Although indigenous to Britain, the Scots Pine is most plentiful, and reaches a state of greater development on the continent, especially in Northern Germany and in Russia, where the vast forests of these regions are composed mostly of this species of pine. In Britain it varies considerably in height and general growth according to the soil, for it has large roots and, in consequence, requires a great depth of subsoil, although the soil need not be of good quality. A typical specimen attains a height of 100 feet or more, and the trunk is particularly straight with a girth of from 10 to 12 feet.

When seen growing alone, the outstanding feature is the bareness of the trunk for, as the upper branches develop, the older ones are starved from want of sunlight and subsequently die, leaving a mass of horizontal branches at the top, and giving the tree a dense, flattened crown of dark green foliage.

The identification of this tree can always be determined by the unusually beautiful and varied colouring of the bark which is purple and crimson on the lower half, while the upper portion and branches are reddish and orange.

The needles (fig. 12) are very long, measuring a full three inches, but in older trees they are seldom in excess of two inches. They grouped in pairs and are arranged spirally round the stems (fig. 1 3), and may be readily distinguished from other pines by their bluish-green colouring. These slender leaves are very stiff and smooth and blunt at the tips.

The male flowers, appearing in May, are small, being only a quarter of an inch in length, but are thickly covered with bright yellow pollen which renders them conspicuous.

The female cones (fig. IC), are roughly egg-shaped but taper somewhat at the apex and measure 2 to 3 inches in length, appearing in clusters of threes and hanging downwards at the ends of the stems. The scales (fig. g) are close-fitting and each terminates in a four-squared boss and are of a yellowish brown colour.

SERVICE TREE (Pyrus Torminalis).

(Plate 13).

Unlike the majority of our native trees the Service Tree is not well distributed throughout the country, being confined for the most part to the southern counties, and even then somewhat local. It is principally a tree of hedgerow and copse, rarely exceeding 30 feet in height and more often 10 to 20 feet. At first glance it might be mistaken for the White Beam (Pyrus aria), but an examination of the leaves will always reveal its true identity.

The leaves are large and divided into five or seven lobes, triangular in shape and sharply pointed at the apex (fig. 9) The margins are unequally toothed and a strongly marked rib runs straight to the point of each lobe. The upper sides of the leaves are shiny green, while the under sides are paler and clothed with long, grey woolly hairs, especially when young.

The flowers (fig. 9) are pure white, somewhat resembling small apple blossoms and measure half an inch across, but are more loosely arranged than those of the White Beam. They appear in clusters in May, standing erect on the flower-stalk and are succeeded in the autumn by fruits in the form of berries, roughly pear-shaped (figs. 11 and 12). When ripe the colouring is brown, tinged with green and mottled with very small light spots.

SESSILE-FLOWERED OAK (Quercus Robur va. sessiliylora).

(Plate 3).

Besides the Common Oak, another variety indigenous to Britain, is the Sessile-flowered Oak (fig. 9), which thrives on poor soil in hilly regions. This type is less common, and confined mostly to the western counties, and is easily distinguishable by the arrangement of its fruit (fig. 8), which is sessile, or sitting, in groups on the twigs without any separate stalk of its own. These acorns will be found grouped closely together in twos or threes.

The leaves, as distinct from the common variety, have leafstalks up to an inch in length.

SILVER FIR (Abies Pectinata).

(Plate 2).

Although not a native tree, the Silver Fir was introduced several centuries ago having been first recorded in this country about 1600. It has, therefore, had sufficient time to become well established in all parts of the British Isles, but is not too plentiful and must be classed as one of our least common members of the fir tribe. Its original home is in Southern Germany and in the Pyrenees, where it is found at elevations of over 6000 feet and growing in vast forests.

The timber is useful, though it cannot rank as wood of great commercial value, owing to its somewhat soft nature and irregular grain, but it does not easily warp and is strong, which accounts for it being used mainly for interior work.

In general appearance and habits it closely resembles the Spruce Fir (Picca exelsa), the chief distinguishing features being the difference in shape and the arrangement of the leaves, or needles. Like the Spruce, it is a lofty tree attaining to a height of 100 to 120 feet with a bole girth of about 12 feet. The trunk is straight with rough fissured bark of a grey colour and lighter than the Spruce. The branches are slender, horizontal, and very numerous, those lower down the trunk decaying as the tree matures.

The leaves of the Silver Fir are flattened and arranged along the stems in two opposite rows (fig. 8), instead of all round the stalk, as is the case with the Spruce. The upper sides of the leaves are a dark green but the under sides are silvery coloured from which fact the tree derives its name. The leaves measure an inch in length and have a strong, well defined mid-rib, and are turned upwards, thus giving the foliage a silvery appearance.

The male flowers can be seen during May and are borne at the ends of the twigs, but although they are threequarters of an inch long, the yellowish green colouring renders them not over conspicuous.

The cones (fig. 7) are very large, being 6 to 8 inches long, and nearly 2 inches in diameter. They stand erect on the stems, and, when young, the colouring is a delicate green, but on reaching maturity they turn to a rich purple-brown. Each seed is furnished with a broad wing which enables the seed to be carried in the wind, but these seeds are not shed until the following spring, that is, eighteen months after being formed.

SPINDLE TREE (Euonymus Eurspous).

(Plate 17).

The name Spindle Tree is somewhat misleading, for this plant is more of a bush than a tree. It is usually found growing among other shrubs in a hedgerow or bower of a wood, and is much in evidence owing to the thickness of the foliage. It is widely distributed throughout the country, being plentiful in woods in some localities.

The name is derived from the fact that the wood is very close-grained and particularly suitable in the manufacture of spindles as well as numerous other small articles.

The leaves (fig. 5) are yellowish-green or, sometimes, golden green in colour and set on the twigs in opposite pairs. In general form they are broadly lancet-shaped, the margins very finely serrated.

The minute flowers (figs. 5 and 6) appear in May and are greenish white in colour. The fruit appears in great profusion and is a brilliant scarlet.

SPRUCE (Picca excelsa).

(Plate I) .

On the Continent of Europe, the Spruce Fir can lay claim to being the loftiest tree, attaining the tremendous height of from 130 to 150 feet but in this country specimens of 80 to go feet may be considered as good examples, for its seldom develops in this land to the same proportions as it does in its native Germany. Owing to its short roots it is able to flourish in rocky situations where there is little subsoil, and where other trees would find it impossible to obtain sufficient nourishment. For this reason the Spruce is often observed at great altitudes, up to 6,000 feet and over, where if flourishes alone in such environments. The fact that it is not a native tree is well substantiated by the observations of earlier authorities, yet its presence in this country is of such long duration as to allow it to have become well established in all parts of the British Isles.

In general shape it is pyramidal with a solid, straight trunk, from three to five feet in diameter at the base. When young the branches shoot from low down on the trunk but as the tree ages these lower limbs decay, causing a mass of dead branches, or, perhaps, half-dead branches with here and there a small amount of foliage. The bark is brown and scaly especially in older trees and the branches are set at regular intervals round the trunk, the summit terminating in a delicate spire.

The foliage, being in the form of the characteristic needles, may best be identified by its unusually dark green colouring. The needles measure three-quarters of an inch in length and end abruptly in a sharp point and are arranged thickly all round the stems in a very uniform pattern (fig. 11).

The cones (fig 8) are large, measuring five to 7 inches in length and one-and-a-half inches in diameter and elliptical in shape, being tapered at both ends. Not until the fruit is almost ripe does it assume the rich, dark brown colour, for in its growing stages it passes through a variety of tints of green and pale brown. The scales (figs. 9 and 10) are very thin and each contains two seeds, the wings enabling the seeds to be scattered with the help of the wind.

CHESTNUT (Castanea Vesca).

(Plate 11).

A tall and stately tree often well in excess of 70 feet in height and, although not a native tree, has been introduced for so many centuries as to be looked upon as a British species. The most perfectly developed specimens are nearly always found in dry situations for, when growing in moist soil, they are invariably stunted and only a poor example of the magnificent types found in parks where the soil may be particularly well suited to their growth.

During all seasons of the year the Sweet Chestnut is easily recognised by the rugged bark which is deeply channelled, the channels run round the trunk in a spiral. The trunk is straight and the bark dark brown; the branches sturdy and wide spreading.

The leaves (fig 9) are broad and lancet-shaped, and regularly dentated with unusually long, sharp teeth; the leaf stalks are very short and the leaves set spirally round the stems. In the autumn they turn to a beautiful deep golden colour before falling.

Not until the leaves are fully expanded do the flowers appear (fig. 12), and although these are three to five inches long, they are not conspicuous being pale green in colour and not easily distinguished against the background of new spring foliage. They hang downwards from the leaf axils and are situated towards the ends of the branches.

The edible fruit, in the form of a nut (fig. 1 l), needs no description, but the husks are, perhaps, less familiar than the kernel inside and can only be described as tough casings with a great number of spikes coating the outside. This bur splits into three sections releasing the two dark brown nuts.

SYCAMORE (Acer pseudoplatanus).

(Plate 9).

Although the Sycamore is not a native tree it has had time to become truly nationalised in this country, and is very familiar in hedgerows, woods and parks. There are several general characteristics which will single it out from the other trees. It is large, often standing well over 60 feet in height, with a remarkably fine, wide-spreading crown, pyramidal in shape. The trunk is straight and covered with very smooth, ash-coloured bark and as the tree ages this becomes somewhat scaly, but never ribbed or rough.

The leaf of the Sycamore (fig. 3) is roughly heart-shaped and cut into five lobes and very regular in form. The lobes are oval in shape, the apex of each sharply pointed and the margins irregularly toothed; the leaf-stalks are long and of a reddish colour. When young the leaves are distinctly downy on the under sides.

The branches are long, slender, and almost horizontal.

The buds (fig. 4) are large and arranged in pairs, but the terminal buds (fig. 5) are much larger than those on the sides of the twigs. Each is composed of numerous protecting scales enclosing the undeveloped leaves, somewhat loosely. A characteristic feature is the smoothness of the new season's shoots and their peculiar slate-colour, mottled with small reddish spots.

The flowers (fig. 1) are composed of masses of hanging blossoms fastened to a central stem and are very showy, being pinkish white.

The fruits of the Sycamore (fig. 2) are similarly constructed to those of the Maple and differ only in the arrangement of the wings or keys, these being set at an angle instead of horizontally, and are broader than the Maple, but serve the same purpose in helping to distribute the seed by retarding its descent, thus allowing the wind to carry it some distance away from the parent tree.

Should a Sycamore be growing in a situation where last year's seeds are able to germinate readily, the ground beneath the tree will be covered with young seedlings (fig. 6), and as they appear some time before the leaves are showing on the tree itself, will prove a valuable guide by which to identify the tree.

The Sycamore is also known as the Great Maple, or False Plane.

TREES AND SHRUBS OF THE BRITISH ISLES

LIST OF INTRODUCED AND NATIVE TREES.

The lists below show the trees native to Britain as distinct from the introduced species, many of the latter having now become so well established as to be looked upon as British species, nevertheless, their foreign origin is recognised by most botanists.

NATIVE

ALDER (Alnus glutinosa).

ASH (Fraxinus excelsior).

ASPEN (Populus tremula).

BEAM TREE (Pyrus aria).

BEECH (Fagus sylvatica).

BIRCH (Betula alba).

CRACK WILLOW (Salix fragilis).

ELDER (Sambucus nigra).

ELM (Ulmus campestris).

HAZEL (Corylus avellana).

HORNBEAM (Carpinus (Cetulus).

JUNIPER (juniper communis).

LIME (Tilia europoea).

MAPLE (Acer campestre).

MOUNTAIN ASH (Pyrus aucuparia) .

OSIER WILLOW (Salix viminalis).

PEDUNCULATE OAK (Quercus robur).

SALLOW (Salix caprea).

SCOTS PINE (Pinus sylvestris).

SERVICE TREE (Pyrus torminalis).

SESSILE FLOWERED OAK (Quercus robur v sessiliflora).

WHITE POPLAR (Populus alba).

WHITE WILLOW (Salix alba).

YEW (Taxus baccata).

INTRODUCED

BLACK POPLAR (Populus nigra).

CEDAR (Cedrus libani).

CHESTNUT (Castanea vesca).

DOUGLAS FIR (Pseudotsuga Douglasii).

HORSE CHESTNUT (Aesculus hippocastanum).

LARCH (Larix europea)

NORWAY MAPLE (Acer platanoides).

PLANE (Platanus orientalis) .

SILVER FIR (Abies pedinata).

SPRUCE (Picca excelsa).

SYCAMORE (Acer pseudoplatanus).

TURKEY OAK (Quercus cerris).

TURKEY OAK (Quercus cerris).

(Plate 3).

A foreign relation of the Common and Sessile-flowered Oak is the Turkey Oak, the chief distinguishing features being the more pyramidal outline and the lance-shaped lobes to the leaves. The Turkey Oak is not what could be described as an old inhabitant of these shores as its introduction from Southern Europe was not noted further back than one hundred and seventy years.

Large in size, its outline is pyramidal instead of round, and the trunk lacks the gnarled character of the British Oaks, the bark being comparatively smooth. The branches, too, are entirely free from the contorted character of the Common Oak, as well as possessing a distinct feature of their own, being considerably thickened at their junction with the trunk.

The leaves (fig. 11), unlike those of the British Oaks, are more oblong in shape and have the lobes pointed instead of rounded. They are of a much lighter green and the under sides are paler and velvety; the leaf-stalks very short.

Apart from these differences, the Turkey Oak bears its acorns in cups which are covered with spikey bristles, giving a distinctly furry appearance (fig. 10).

WHITE BEAM (Pyrus aria).

(Plate 14).

When growing alone and able to develop fully, the White Beam attains a height of from 30 to 40 feet, but it is most usually found in hedgerows where it becomes a small tree, only assuming the proportions of a large bush. The name is derived from the white under sides of the leaves. Its distribution is local, being found in districts where the soil contains a large proportion of chalk or limestone, but it does not attract much attention owing to its liking for growing in woods and copses in the company of other trees and bushes.

The leaves (fig. 9} are elliptical in shape and somewhat rounded at the apex and narrowing at the base. The margins are bi-serrate, or double-toothed. Above, the leaves are a rich green, and characteristically white beneath; the leafstalks slender and just over half an inch in length.

The large clusters of flowers (figs. 7 and 8), appear in April and May and are borne on particularly long stalks; the individual blossoms measuring over half an inch across and having five petals of a white colour tinged with pink.

In the autumn the fruit is very conspicuous, being of a rich scarlet colour and produced in the form of berries (fig. 10), about half an inch in diameter.

WHITE WILLOW (Salix Alba).

(Plate 6).

Very similar both in appearance and habits to the Crack Willow (Salix fragilis), but usually attaining a greater height, and although generally less abundant, is common along watercourses and in moist situations. Like most of the Willows it is often pollarded, the young branches having been cut off for the purpose of basket making. This, of course, gives the tree a stumpy, bushy form and only when untouched by the hand of man does it attain its maximum height of 80 feet and with a girth of 15 to 20 feet.

The trunk is covered with very thick and deeply fissured bark of a reddish brown colour. The upper branches are slender, shooting directly from the main stem, but the lower ones usually dip downwards. The young shoots have an olive green tinge.

This tree can always be readily distinguished by the leaves (fig. 3), which are pointed at both ends. The margins are toothed and the leaves themselves very silky, especially when young, but retaining the under sides silky when mature. The stems and young twigs are also covered with white down.

The catkins of the White Willow are very numerous and a large tree in full flower is a most attractive sight. The male catkins when fully matured (fig. 4), are the more conspicuous although smaller than the female (fig. 6), and are one and three quarter inches in length; the scales almost entirely hidden by the numerous fine, hair-like stems bearing the yellow pollen-laden flowers. They are borne singly on short stems, branching from the main stalk and are not pendant but stand erect.

The female flowers are two and a quarter inches long and produced also on short stalks always towards the extremity of the shoots, and are quite different in appearance from those of the male, the scales being cup-shaped (fig. 5), and the stigmas growing in small tufts out of these. It has a very fluffy appearance.

WHORTLEBERRY (Vaccinum myrtillus).

(Plate 19).

A low-growing shrub often very abundant in certain localities where it is known to cover large areas of ground. Seldom exceeding two feet in height, it forms a dense growth of bushy foliage completely covering the ground; this is particularly noticeable in the southern counties of England.

Also known as Blackberry and Bilberry, it is distinguished by the glossy appearance of the leaves and stems when seen at close quarters, but from a distance it is sometimes mistaken for heather, especially when covering a hillside.

The stems are angular, smooth and rise from a creeping root-stock .

The leaves (fig. 5) are broad at the base and the margins finely serrated; the leaf-stalk very short, the leaves arranged alternately round the stems. The colouring is pale green but the young leaves have a beautiful rose tint in the spring. Before falling in the autumn the foliage turns to a rich crimson .

The flowers are not over conspicuous, being pale green or whitish, tinged with pink, but are interesting as they are shaped like a pitcher and hang downwards on very short leaf-stalks from the axils of the leaf and are borne singly.

The fruit (fig. 4) is in the form of a berry of a blue-black colour and the size of a large pea.

WHITE POPLAR (Populus Alba).

(Plate 7).

This variety of Poplar is a large tree attaining a height of .from 80 to a l00 feet and usually found growing in moist situations although it is by no means confined to such localities. The tall, straight trunk is covered with smooth, grey bark and the branches are spreading. Around the bole of the tree shoot a number of suckers.

The most outstanding feature of the tree is the great variety in the shape of the leaves, for it is seldom that any tree can produce leaves of such different designs yet all belonging to the same species Those growing on the older and stronger shoots are large and lobed, while the more tender and younger shoots produce leaves of a triangular shape, without lobes, and the margins finely toothed. Another difference is in the leaf-stalks which, in the lobed leaves, are covered with white down; the triangular leaves having long and more slender stalks without any down. The leaves, too, are clothed with down beneath and whitish looking, while the upper surface is a rich green and, like the Aspen (Populus tremula), tremble in the breeze but not to the extent of the latter.

YEW (Taxus Baccata).

(Plate 2).

Unlike the majority of firs, this species is a true native of Britain. There are several magnificent specimens to be found in various parts of the country with massive girths reputed to be over a thousand years old. Yews of great age are frequently observed in churchyards, and some of the most typical examples of this tree, in its advanced years, are to be seen along the Pilgrims' Way on the chalk hills of Kent and Sussex. It is a tree of exceedingly slow growth and, in consequence, the wood is very hard and fine-grained. In height it seldom exceeds 50 feet, and usually well under this, but the trunk is massive and very deeply channelled and covered with thin bark of a reddish brown colour which peels off easily, especially in older trees.

In general outline the Yew is not shapely for the branches grow from the parent trunk in unorderly fashion, giving the tree a gnarled appearance.

The narrow leaves (fig. 2) have parallel sides and are set along the twigs in two opposite, crowded rows (fig. 1). The colouring is dark green above and glossy, while the under sides are paler.

The male and female flowers are produced on separate trees and neither is very conspicuous. The male flowers (fig. 3) are generally more in evidence than the female, the former being in the form of small, globular catkins not more than a quarter of an inch in length and of a yellowish colour. The female are very much smaller and greenish. The fruit (figs. 5 and 6) is, however, truly conspicuous, being bright red and, therefore, a strong contrast in colour against the dark coloured, thick foliage.

A feature of the Yew, as distinct from other firs, is the manner is which the branches spring from the trunk very low down, and this, in young trees, gives the appearance of a large bush.