CHAPTER I

THE PLANT AS A WHOLE

WHEN the possibilities of tracing the life story of a plant which has been in cultivation for over three and a half centuries are first considered, it is soon evident that the earliest stages are likely to prove difficult. It is too much to hope that actual specimens will have survived, even in the form of herbarium specimens, for no herbaria were in existence then. Failing these, the literature of the period might be expected to provide some information, though it cannot amount to much, for in those early days books were few and far between. Fortunately, however, the absence of such works is compensated for by the fact that soon after the introduction of the Auricula some of the earliest known botanical books were published. In these great tomes particular attention was given to garden plants, in which respect they differ greatly from modern works on the subject. From them a fairly clear account of the types first brought into cultivation can be obtained, and this moreover can be checked by trying to re-create them from the wild plants subsequently believed to be their parents.

These scraps of information, supplemented by pictures and occasional descriptions found here and there in accounts of old-world gardens, diaries, etc., build up, bit by bit, into a consistent whole.

But still more can be learnt from a study of the plant itself. This is of peculiar interest, for the Auricula developed along two distinct courses, one comparable with that of most of our garden plants, the other without any parallel in horticultural history. The result of this second course of development was the production of a flower which, from its earliest days, possessed a beauty and charm entirely its own. Florists took it in hand immediately and from it built up the Show or Stage Auriculas of the present day. They had an unusually fertile field to work upon, for the flower is a complicated one with a number of distinctive features unknown in any other plant in cultivation. At an early stage of their work they defined the 'properties' which they considered the perfect flower should possess, and their ideals have been consistently maintained to the present day. Thus the Auricula grower has to bear in mind a number of conventional 'points', which, owing to the complexity of the flower, is considerably greater than is the case with any of the other florists' flowers. To understand these and also to follow out the course of development of the plant, some knowledge of its general build-up, or Morphology, is essential. This

is easily acquired even by those with no interest in botany as a whole.

The plant is a long-lived, somewhat fleshy perennial, which, growing in an untutored state, forms a mat of foliage a foot or so in diameter; it branches repeatedly at about the level of the soil, the branches soon turning upwards and bearing closely-packed foliage, leaves and flowers. The cultivator's ideal, however, is a single-stemmed plant bearing a solitary crown of leaves. The semi-succulent, corrugated stem is about six inches in length with something of the appearance of a diminutive palm tree trunk. But growers, in the interests of tidiness, prefer to bury it at each repotting in order that the crown of foliage may rest neatly on the soil. This underground stem is known colloquially as the 'carrot'. From it new roots and buds, or offsets, are developed.

The inflorescence, or truss as it is universally called, arises from either the apex of the stem, that is, the centre of the rosette of foliage leaves, or from shoots at a lower level. It bears first of all a whorl of leafy bracts varying much in size, some being narrow and pointed and others full-sized foliage leaves, which form a backing to the group of flowers much as a leaf does to the conventional bunch of violets. They are of little significance to the florist but they are often valuable for purposes of identification. Springing from amongst the bracts are the pedicels or footstalks of the individual flowers,

commonly known as 'pips'. The number of these, which is almost invariably an odd one, is determined largely by the vigour of the plant, but some sorts of Auriculas normally carry far more than others. Some of the more primitive for instance, may bear fifty or more pips to the truss. As seen at the shows the minimum permissible number is five, whilst trusses carrying up to thirteen are not uncommon. This latter number is often the result of reducing the number of pips, with the object of preventing overlapping and so allowing each pip to display itself properly. Clearly then the length of the pedicel plays a part in determining how many pips shall be allowed to remain, and, other things being equal, a long footstalk has some advantages when a large truss is required,

The flower itself has the characteristic Primula structure with, however, some modifications peculiar to the Auricula. It consists of a tubular portion, the 'tube' (or pipe), within or on which the reproductive portions are situated, and a flattened disc or corolla. The base of the tube surrounds the ovary, which terminates in a slender style bearing at its apex a small knob-like stigma. If the style with its stigma (pointil or pin) reaches the top of the tube the flower is 'pin-eyed'. The stamens (brush, thrum, chives or spices) either form a ring at the top of the tube or about halfway down its interior. In the former case the flower is described as 'thrum-eyed'

and its stigma only reaches about halfway up the tube.

The difference in the position of the stamens and stigmas in these two types of flowers facilitates cross-pollination, for if a bee in search of honey visits a short-styled flower it inevitably brushes off pollen from the stamens at the top of the tube, which is then rubbed off on to the stigma of the first long-styled flower it happens to visit. Similarly, the pollen from a pin-eyed flower can be transferred to the stigma, situated half-way down the tube, of a thrum-eyed flower. This, however, does not exhaust the methods of pollination, for pollen from a thrum-eyed flower can easily find its way to the stigma below and bring about self-pollination.

Similar adaptations for cross-pollination are known to be of value to the plants in which they occur, and the cross thrum × pin has been shown in the primrose to produce a better seed crop than crosses between thrums and between pins. But the florists took little notice of this when, about the end of the eighteenth century, they decided that the ideal flower must have a thrum eye, because 'the pin-eyed flower shows a chasm or vacancy very unpleasant to the eye of the curious florist'. So ingrained is this convention that even the hardiest of exhibitors would not dare to include a pin-eyed flower amongst his plants. In fact the conditions for entry of some shows still specifically bar such flowers. In the

privacy of the garden however the harshness of the Medes and Persians may be forgotten, for a good flower, even if it is pin-eyed, is beautiful enough to warrant its retention in most collections. Yet in spite of universal and long continued condemnation, pin-eyed flowers seem to be as abundant as ever, and those who believe that by selection they can secure whatever they may wish for must have their faith sorely tried.

The flowering season of the Auricula extends from, roughly, the middle of March until the middle of May with a peak period about the middle of April. In the southern parts of the country it is usually from a week to a fortnight earlier than in the northern. But the actual date at which the plants will be at their best depends largely on the weather conditions earlier in the year, and as show dates have to be fixed months ahead they cannot always coincide with the best period from the exhibitors' point of view. There is often a small-scale, second flowering period in the autumn. Its occurrence is almost certainly to be associated with the climatic conditions of the early summer, for flowers are equally to be found on newly potted plants as well as on those that have been in their pots for two or three years. It is a crop which most growers would willingly dispense with, for even if the flowers expand normally they are often out of character.

Two distinct types of corolla occur in the Auricula.

One is that typical of the Primulaceae, the other, whilst showing some general resemblances to it, is unlike anything else to be found in the floral world. The first or normal type has a coloured outer zone (disc, outer rim) surrounding a yellow or white centre or eye (circle, inner rim). The coloured zone is built up of five or, more frequently, six petals, but the number is not necessarily constant, for in a truss in which the first flowers to open are six-petalled the latest are often five-petalled. Each petal is broadly heart-shaped with a notch at its apex, which, however, is not as a rule pronounced enough to spoil the circular outline of the flower. The overlapping of the petals tends also to the building up of a well-rounded pip by doing away with the gaps which produce the starry or windmill-like shape seen so often in primroses and other flowers of the Primulaceae. In addition to this normal flower there is an eight-petalled strain in all of the groups into which florists have divided Auriculas. Little is known about this divergence, but that the extra petals do not mar the outline of the flower is clear from the fact that their presence is neither approved of nor condemned.

The second type of corolla is more complicated. In this the centre is heavily coated with a white layer of meal known as the 'paste'. The outer edge of this is sharply defined by a coloured zone known as the 'body colour'. This does not extend to the margin of

the flower but sprays out in small, irregular streaks into a green marginal zone which may or may not be powdered with a coating of meal. The diffusion of the body colour into the green margin provides the one touch of informality in the otherwise perfectly symmetrical flower. Flowers built up in this way form the group known as the 'Edged' Auriculas (China-edged, Striped). They lack the central notch seen in the petals of the first type and instead of being heart-shaped they are frequently sharply pointed. The flowers thus have a tendency to be polygonal in outline or, in extreme cases, star-shaped. This is considered to be a serious fault, but if the polygonal shape is not particularly obvious the flower will pass muster with most florists, though it will inevitably be condemned if the corolla is star-shaped. Finally the flower should be as flat as possible, but here again a shallow saucer shape is not altogether unacceptable, although if the depression is marked and the flower consequently cup-shaped, no competent judge will have anything to do with it.

The calyx is the small, green, cup-like structure at the base of the corolla, which, as it is out of sight when the truss is expanded, has received no attention from florists. But there are a number of distinct forms of it which can be made use of for distinguishing between very similar sorts of Auriculas.

There is great diversity in the foliage of the

Auricula, and the shape of the individual leaves cannot be completely described without using the vocabulary botanists have to employ. This, however, is of no great importance to the florist and it will be sufficient to state that the leaf is more or less egg-shaped with the broad end of the egg uppermost. In the broadest forms the shape is rhomboidal and in the narrowest spatula-like. The leaf tapers for about two thirds of its length to its junction with the stem, but has no distinct stalk. The apex, as a rule, is pointed. The blade is thick and fleshy with the midrib and lateral veins so imbedded that the surface is practically smooth. The margin of the leaf may be simple, that is, its outline can be drawn with one sweep of a pencil, or it may be toothed like a saw (snipped, indented). The extent of the serration provides a useful feature for identification purposes and nurserymen often acquire an enviable degree of skill in making use of it.

The most important characteristic of the foliage of the Auricula is provided by the coating of meal found in so many of its sorts. Where this is wanting the leaf has an ordinary, grassy green colouring, and where it is present an exquisite silvery, bluish green. The coating may, however, be so dense that the leaves can be described as white, for the green background is practically obliterated. It is usually distributed uniformly over the surface, but in some sorts it is confined to the margins of the leaf, where

it forms a clear-cut edging of silvery white. This is seen at its best on foliage which is otherwise free from meal, but it also occurs in association with a general powdering of meal. Thanks to this meal, which the flattened surfaces of the leaves display to perfection, the Auricula is one of the most beautiful foliage plants in existence, but only those who have access to a large collection can ever know what a surprising range of subtle colour effects are produced by the slight variations in the thickness of the deposit.

When the leaves cease to function, instead of falling they dry up and then generally decay. The position they occupied is indicated by horizontal scars on the corrugated stem. Buds develop on this immediately above the scars, that is, in the leaf axils, and when they have grown to a sufficient size form the offsets by means of which Auriculas are propagated.

There is nothing particularly distinctive about the appearance of the small, rough-coated seeds of the various groups of Auriculas. The most important feature about them is that seed gathered from one particular plant does not necessarily produce similar plants. It is a misfortune which has to be endured and it has made the comparatively slow vegetative reproduction by means of offsets essential when stocks of identical plants are required. This has its repercussion on the problems of seed supply, and