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Wild Flowers  
— of —  
Kodaikanal



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# Wild Flowers of Kodaikanal

by

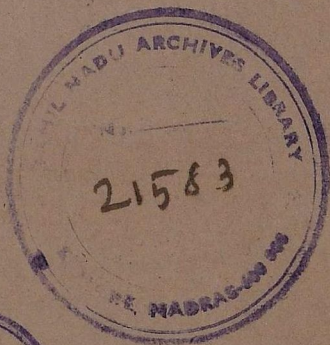
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*Ab auctore*

*Ad auctorem*



## WILDFLOWERS OF KODAIKANAL



**I**N Kodaikanal during the hot weather months one finds oneself surrounded by a profusion of wild flowers of great variety and in many cases of considerable beauty about which it is almost impossible to obtain any information. There are in India, botanically speaking, only two types of man: the scientist who, to one's eager—"Please is that a pimpernel?" rejoins coldly—"These popular names are of so little value; do you mean *Anagallis arvensis*?" and the ordinary, kindly person who answers frankly—"I haven't the faintest idea." In Kodaikanal, only the latter is, as a rule, to be met with. Books on Indian Botany are often so technical as to be useless to

the amateur who relies more on the colour of the petals than the structure of the seed vessel for purposes of identification; moreover, they very rarely deal much with the hill flora. An English gardening book is often more likely to contain the names one wants, but then such entries as "a pleasant, nicely growing plant, does well in borders" do not enable one to mark down with certainty *Anaphalis aristata* or *Sopubia trifida*.

It is in the hope of their being useful to others who, like myself, have felt the need of some simple descriptions attached to the list of formidable names given in the Madura District Manual and repeated in the local Guide, that I offer the following Notes on some of the plants to be found in flower in Kodaikanal about the months of June and July. I have taken June and July as representative months, because they are the overlapping point for two sets of plants; those which flower in the dry hot months and those brought out by the South West Monsoon; and, as technical classification is often more bewildering than helpful and as classification according to locality is almost impossible in a place where, having tracked a

flower to marshy land, you suddenly find it again on the most barren of uplands, I propose to go through my plants simply in order of size. I hope to make use of none but the simplest and most essential botanical terms, but since any exposition of principles must be beyond the scope of these Notes, I advise anyone in need of explanation or definition to procure Mr. Pfeiderer's admirable little book on elementary Indian botany, published by the Basel Mission Press.

I will take the flowering shrubs first; they are, though comparatively few, a very decorative feature of Kodaikanal. The red purple of the *Osbeckia* is still to be seen here and there, though the great show of April is over. *Osbeckia* belongs to the natural order *Melastomaceae* a Brazilian family. The crispy hairy leaves with five veins running from base to tip, the rough calyx, so hairy that the flower buds look like little burrs, and the profusion of flowers with their six velvety magenta petals, tall vermilion green tipped style, and ten or twelve bright yellow stamens, make it a very striking shrub. It is interesting to investigate the way,

characteristic of the family, in which the stamens are tucked away head downwards, each into its little pocket, between the ovary and the calyx, until the style has had time to become fertilised, when they unfold and rear up their long thick anthers, the style bending to one side, away from them, with a funny suggestion of superciliousness. Another member of this family brought from China, the beautiful *Tibouchina*, with flowers of an ecclesiastical purple, is to be found in several gardens growing to the size of a small tree and it is worth while to contrast and compare the two.

*Osbeckia* roots in the most impossible places, on walls and banks and barren moorland, growing to any height from one to 15 ft.; where it stands in a reasonable depth of soil, its frequent companion, flowering at the same time, is *Hypericum* or St. John's wort (N. O. *Hypericinaceæ*.) the large yellow buttercup-like flowers making a fine gay show. The remarkable thing about this plant is the extreme regularity with which the pairs of slim, smooth rather transparent leaves are put on at alternate right angles, so regularly as to



make a branch remind one of a turnstile. The leaves are dotted with dark spots, really glands, containing oil, and in most species the petals also show the spots, but in this species (*Hypericum Mysorense*) seem to be without them. The regular flowers—five round petals narrowing into a claw; five groups of stamens, one against each petal; five styles to the thick, raised green ovary—are at the ends of the branches singly or in twos and threes. As the ovary dries and shrivels and develops into the brown, withered-looking berry it shows very plainly the five carpels, or leaves, of which it is composed and enables one to understand as well as believe that all the parts of a flower are only more or less modified foliage leaves.

*Coleus* (N. O. *Labiatae*) which in May was showing everywhere its upright crowded spikes of light purple flowers, rising candelabra-like on the perfectly bare, four-angled, grey stems, from 4 to 10 ft. high, in June becomes gradually clothed with great velvety heart-shaped leaves beautifully crenate, or round-toothed, and by July there is nothing but a long-stalked, leafy bush to be seen. The flowers are set on

at three angles round the stem on little purple flower stalks. Like many Labiates they are strongly aromatic, but, unlike most, they have the upperlip formed of the four combined petals and the fifth as the lower lip. The single petal, which is paler in colour than the others, is tucked up under the hood of the upper lip to protect the style and the five cohering stamens that lie within it, until maturity. Not only are the flower stalks purple, but the stem and leaves have glowing purple patches upon them. I put this down as *Plectranthus* for sometime, and I find that the names are used as synonyms by some botanists.

Near the *Coleus*, with a large velvety leaf, which at first sight resembles it very much, is often the thorny *Solanum ferox* (*Solanaceæ* or night-shade family), throwing about its long trailing branches which are jointed at a slight angle where each leaf is given off in the way typical of the family. It bears the regular night-shade flowers followed by tomato coloured berries. *S. Jacquinii*, a smaller plant, with larger pale mauve flowers and much cut-up leaves, grows at a lower level, about the bazaar.

Another of the family common in the Kodaikanal Shola is the *Datura*, too well known to need description here, though I have seen a photograph of its large white bell-like flowers endorsed "a group of Kodai lilies." In the Pambar grounds it grows to an unusual height, as tall as a small tree. There are several other night-shades about the banks and hedges, all easily recognisable.

A plant which, though entirely gone to seed by June, is still bound to attract attention on every bank, roadside, and hill, is *Lobelia nico-  
tianifolia* (N. O. *Campanulaceæ*) commonly known as wild tobacco. It rears up its immense cylindrical flower stalks from a whorl of long narrow leaves something like those of a fox-glove, or of tobacco, and though never a pretty plant, as it flowers slowly from the bottom upwards, so that long before the little mauve-pink flowers at the top have bloomed, the lower part of the stalk is in seed, it can never fail to be striking.

Two other very pretty shrubs are not mentioned in the District Manual. One is the *Jasminum humile* (N. O. *Jasminaceæ*) which on

the roadsides and downs begins in June to hang out its pretty, scentless, little, yellow bells, with the typical two stamens of the family flat on the throat of the tube. The effect of the flowers, two or three together, among the dark glossy, slightly diamond-shaped, leaflets, three or four pairs on each leaf, is delightful. The other, *Rhodomyrtus tomentosa*, the hill guava (N. O. *Myrtaceæ*) is rare but apparently indigenous, since it is found in such remote and distant places as the Dolphin's Nose headland and Bear Shola. It is not a guava, but nearly related, as both belong to the same order; its rounded leaves in opposite pairs and the fruit contained in the swollen calyx are very like those of the guava. Its flowers which grow out two on a stalk, from the angles of the top pair of leaves on each branch, are charmingly pretty: a grey velvety calyx of five sepals; alternate with them five wax petals, white outside, a delicate pink inside; and within numbers of slender deep rose coloured stamens crowded upon the ovary round the style.

One would be glad to pass over *Polygonum* the "many kneed" (N. O. *Polygonaceæ*) in

the silence its appearance deserves, were in not so ubiquitous. In May it begins to appear in small, straight, large-leaved shoots a couple of feet high; by July it is overrunning hedges, downs, and roadside banks with its clumsy, stumbling, red stems and lumpy heads of meaningless cream-coloured flowers which look as if they never developed out of the bud, although they are often side by side on the same flower stalk with the shining, black berries. They have five cohering petals, five thread-like red stamens and three short white styles. The most noticeable feature of *Polygonum*, besides the swollen joint in the stem, wrapped round by a disfiguring sheath, where each of the alternate leaves is given off, is the dark arrow-mark on many of the leaves.

The *Vaccinium*, or Bilberry (N. O. *Ericaceæ*) resembles the *Polygonum* both in flower and fruit, though the flowers, which are quite white and grow along a white or pink stalk, the little secondary stalks or pedicels being white also, produce quite a pretty effect, suggesting the lily of the valley. They have four cohering petals, four short stamens with the horned anthers peculiar to this genus, and a calyx of

five white sepals which remain on<sup>d</sup> as a covering to the berry. The leaves, which grow singly on alternate sides of the stem, are slightly toothed—above dark green and smooth, below lighter, and curiously punched so as to resemble pig skin. The stems are thick and woody and grow to any height from a dwarf shrub to a small tree.

Another common shrub in Kodaikanal sholas is *Euonymus crenulatus* (N. O. *Celastrineæ*) the spindle-tree, which, though generally a small tree, sometimes keeps within the dimensions of a shrub. Its small five petalled, primrose-shaped, pale-terracotta coloured flowers have nothing to awaken any particular interest until one notices on the same branch with them what appears to be a much larger, handsomer, more fleshy flower. This is the ripe seed-case, of which the five leaves or carpels become red and swollen, parting to show the five (sometimes ten) orange-coloured seeds which are attached each to its placenta (the carpel edge) by a little yellow thread on which the seed is sometimes to be seen hanging loose before dropping entirely. I have met with nothing more illuminating upon the structure of the seed vessel than this small tree.

*Polygala* (N. O. *Polygalaceæ*), which grows on banks overhanging shady roads, begins in June to show pleasant little sprays of parti-coloured yellow flowers, followed by the nasturtiumlike, round, green fruit among its long, ovate, leathery leaves. The flower has a likeness to the butterfly flower of the pea though the plant is not a pea. The standard, which is orange-coloured and has a curious fringed appendage, is part of the calyx, so are the two long, widespread, lemoncoloured wings; the small hard keel, to which the tube of eight stamens is united, is formed by the three petals. The fruit contains two largish round white seeds.

Near *Polygala* a *Crotalaria* (N. O. *Leguminosæ*) often throws out a long straight bough with its alternate leaves, terminating in a spray of light yellow pea-flowers; this we meet with again in a dwarf species.

Among the many hedge-shrubs flowering in Kodaikanal in June, shine here and there, with deceptive gaiety, the yellow buttercuplike flowers of a *Cassia* (Natural Order *Leguminosæ*), the hateful senna of our childhood, but this and the velvety, grey-leaved, white jasmine which strays about the upper roads round the

lake are too familiar, to have a right to usurp space in these Notes.

*Strobilanthes* (N. O. *Acanthaceæ*) claims by right of height to be grouped with the shrubs, in spite of its long lanky, very unshrub-like growth, and the fact that, though the species that grows about the settlement reaches a height of 6 ft., the other species, farther out upon the downs, hardly exceeds 1 foot. The *Strobilanthes* is said to flower only once in seven years. The explanation of this given in the "Gazetteer of the Nilgiris" is that the plant takes seven years to achieve maturity, then flowers and is renewed from seed; but, if this be so, how is it that in a flowering year one finds plants of every size and apparently every stage of development, in flower? It certainly does not flower every year as it has done in 1910, when it has made the sides of many hills bloom with the profusion of its pale lilac, two-stamened flowers shaped like a French clown's hat. They are not very effective flowers when seen close at hand, for, like most of their order, they grow in a close head folded one upon the other in bud, with over each a leafy bract, the whole looking like



a stumpy wheat ear. The head flowers gradually from the bottom upwards and not more than one pair of flowers on the same head are in bloom together, the rest being either in bud or withered.

Next in height and mingling with the thistles that fill almost every valley and growing like them to 4 or 5 ft., is the *Dipsacus*, or Teazle, (N. O. *Dipsacæ*) with its flattened globular, ivory-coloured head, reminding one, until the buds begins to open, of the squat bone thimble one's old nurse used to use. I say until the buds begin to open because, whereas in other many-flowered plants the flowers begin to open either from the outer edge of the inflorescence inwards, or from the centre outwards, in the *Dipsacus* the flowers half way between—that is to say, round the top of the "thimble"—open first, and it then takes on rather the appearance of a chess castle. The flowers are small and white, each with four petals—one rather longer than the rest—four stamens with heavy purple anthers projecting above the petals; each flower surrounded by dark brown-green spiky bracts, and the whole head rests, like a cake upon a cake-paper, on a

double set of seven flat-pointed leaves, forming the "involucre."

The *Dipsacus*, though a separate order, are very like the family or order of *Compositæ* in which the little "florets" have a particular shape and are crowded on to the flattened end of the flowerstalk, the "common receptacle," and surrounded by several rows of bracts, simulating one flower. There are a number of *Compositæ* in Kodaikanal belonging to both the great sub-divisions of the order: the *Ligulifloræ* and the *Tubulifloræ*. In the latter subdivision the centre of the head is formed of tubular florets—generally yellow—a tubular corolla through which a tube of cohering anthers forces its way, in its turn to be forced open by the rising of the two pronged style—and the outer ring or rings of florets develop their petals to a proportionately gigantic size and length, in a lop-sided way, over on to the outer edge of the head, so that the whole resembles the stamens surrounded by the petals of a single flower.

The commonest type of *Tubulifloræ* is the daisy, represented here by the pink or white *Brachycome* or Swan River daisy, an importa-

tion from Australia, which seems to have become completely naturalised, climbing over banks and walls and sowing itself freely; it is a lowgrowing plant, but its cousin, the yellow or white *Helichrysum* (the "Everlasting") which appears in such profusion in July about the bazaar and along many of the roads, is often 3 ft. high or more. Another member of the family very common here is the *Anaphalis* which, with its silvery stem and leaves and pretty crisp little white flower-heads, makes snow-like patches upon the hillsides in June. This is generally the *Anaphalis brevifolia*, a small plant rarely as much as a foot high, with narrow straight strips of leaves: the species *aristata*, with tall stalks and thicker, wider leaves (often growing up from under the overhanging edge of a bank) is a couple of feet high, and there is still another species, intermediate in size and height, the *Anaphalis oblonga*.

Of the other division of the Compositæ, the *Ligulifloræ*, in which *all* the florets are alike ligulate, or strap-shaped, though on a smaller, modified scale, the commonest are probably *Ageratum* (not indigenous)—several small heads of pale mauve florets at the ends of short

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flower stalks topping a long thin stem on which, at rare intervals, are opposite, toothed leaves; *Gnaphalium* much like the *Anaphalis oblonga* in growth, but with green foliage and narrow, light-yellow heads which never seem to widen out; *Senecio*, easily recognised as groundsel, and *Cnicus* the thistle. Other members of the group to be found here are *Artemisia* (the Indian wormwood) *Emilia Sonchifolia* (several reddish heads with foliage like the sowthistle), the *Blumeas* and the *Vernonias*.

Another family with a likeness to the *Compositæ* which are fairly well represented in Kodaikanal are the *Umbelliferæ*; plants bearing on a slender stem a very flat compound umbel of minute flowers. In an umbel the flower stalks, or peduncles, start from the same point, each branching again in the case of a compound umbel into several secondary flower stalks or "pedicels," which bear minute sub-umbels. In the *Umbelliferæ* the flowers in these sub-umbels often grow closely together and sometimes the seven or eight outermost flowers of the group have one petal developed to four times the size of the rest, suggesting the ligulate florets of the *Compositæ*, and giving to each

pedicel the effect of bearing one loose starry flower. The Umbelliferae to be found here are pretty plants, but they bear alarming scientific names with no English alternatives. Those umbels of tiny yellow flowers on slender-swaying reddish stems about a foot high which spring up all about the Downs in July are *Bupleurum distichophyllum*. This has about eight secondary umbels with ten to fifteen flowers in each; there is no development of the outer petals. *Heracleum* is the biggest of the family here, growing to 2 or even 3 ft., with a strong, furrowed stem and a big white head; it has about twenty-two secondary umbels, twenty-two to twenty-five flowers in each, six or seven with the developed petal very strongly marked; it flourishes by streams and in marshy places, often near the *Dipsacus*. Other, white-flowered Umbelliferae are the *Pimpinella* and *Hydrocotyle*.

One of the floral features of June is the blushing, rosy-headed *Lysimachia* (N. O. *Primulaceae*). This plant is only 6 to 12 ins. high when it begins to flower but grows longer later on, the round pinkish berries appearing along the stem at much greater intervals than the flowers,

which, though really growing up the stalk in a "raceme," are often so crowded together as to look like a round head. They have five shaded pink petals—those at the top redder, those lower down the stalk pinker—five stamens, each opposite to a petal, crowned by round black anthers, which project and give the flower a bristly appearance. The style is longer than the stamens; the narrow leaves grow in opposite pairs or opposite tufts up the stem.

A second feature of June is the *Dracontium polyphyllum* or Purple Dragon (N. O. *Aroideæ* or *Araceæ*, the Arum family), which begins to appear at the end of May and all through June is scattered about the roadsides, growing best, I think, in the shade, but not disdaining open country. Americans call it "Jack in the Pulpit" and the name is not inapt, for the flat crown or sounding-board of leaves—varying from three to fourteen as the curious purple-mottled stalk which they top varies from 1 to 3 ft.—is nearly always above and over the arum-like flower which leans forward at an eager angle on its stalk. One says "flower" for convenience; it is, of course, like the Arum, a cylindrical "spadix" on the lower two-thirds

of which numerous flowers are massed; below, the female flowers consisting of bright green seed vessels each with a sessile black style, higher up the male, little more than lumpy groups of purple anthers; above the "club" or bare end of the spadix; and round all the enveloping "spathe," not smooth and white as in the arum, but ribbed and striped, the stripes being often green and white only in small plants, and purple and brown as well in older and larger ones. The spathe is about twice the length of the spadix and often doubled down over it. The arrangement of flowers is not always as I have given it; it varies in different plants and, I think, in the same plant at different stages. The thicker lower part of the spadix bearing the seed vessels is certainly longer and more developed in larger plants, but I have seen plants in which the whole spadix is covered by male flowers and others where only the seed vessels, surmounted by a few spiky nectaries to attract insects, are to be seen. The plant takes its generic name from the snake-like mottling of its stalk.

The third feature, even more prominent than either of the preceding, is the hat-pin-like weed

about a foot high—a small flat white head, resembling the sweet-covered chocolate-drop of our infancy on a perfectly straight ridged stalk—which grows in profusion on the borders of the lake and in all marshy spots, yet also in the driest places on the Downs. It looks as if it ought to be akin to the *Dipsacæ* or the *Compositæ* but is, as a matter of fact, much nearer the *Dracontium*, for its stalk is really a spadix on which the flowers have merely been crowded up to the tip which has there been flattened. It is the *Eriocaulon* (N. O. *Eriocaulacæ*) the name implies that it has a woolly stem, but must refer to some other member of the genus, for this plant is as hard and bare of stem as it is possible to be. The perianths of the tiny flowers are black, topped by a white beard, and this produces exactly the chocolate-drop effect.

Yet another plant very prominent in June is the South African lily, the beautiful *Agapanthus* or Love flower, (N. O. *Liliacæ*) which grows so freely and so abundantly here as to deserve to be reckoned among the local flora. One of the prettiest things about this beautiful flower which grows in loose umbels of as many as 100 on one stalk is the way in which the



six leaved perianth ("perianth," not sepals and petals since, as in all lilies, they are indistinguishable), 6 stamens, and style, are all of the same delicate crocuspurple, indeed the flower-bud itself before opening is not unlike a crocus. The style is white in the bud and only takes on colour later.

*Desmodium rufescens* (N. O. *Leguminosæ*), a shrub in style of growth, though often only a small plant, is easily recognised when it begins to flower on banks and hillsides at the end of July. It bears purple-blue butterfly flowers, the petals becoming white near the base, and has rusty flower stalks, and a leaf composed of three leaflets which are much paler underneath than above.

Easily recognized too is the white flowered *Coleus* which grows in nooks to 1 or 1½ ft. high, by its complete resemblance in the flower, the whorl of the several-flowered, rather long flower stalks round the stem, and the heart-shaped leaf, to its big lilac-flowered sister.

So also the thick, fleshy, hairy, unpleasantly aromatic *Coleus barbatus* (N. O. *Labiatae* or *Larniaceæ*) which grows on bare exposed rock patches on the hill side. The purple flowers,

with their disproportionately large, projecting, single petalled, lower lip growing, almost stalkless—"sessile",—round the long straight stem are prettily protected when in bud by a pointed, sheathing, leafy bract, green tipped with purple. These bracts, which overlap one another closely, fall away as the flowers open, making it difficult to recognise the stalks in bud and in flower as the same plant.

One not very common plant mentioned in the "District Manual," which I have found in June, is *Biophytum* (N. O. *Geraniaceæ*). It has the appearance of a tree in miniature: a woody stem and branches, from the extreme ends of which grow several compound leaves, and from among the leaves two or three flower stalks, bearing each a flower or a small rough umbel of flowers, five slender sepals, five yellow petals, streaked with red, cohering almost all their length, the buds orange-coloured. I took it for a *Cassia* at first, (though the manner of growth of the flowers reminds one at once of a *Geranium*) owing to its long narrow leaves with their twenty pairs of slim leaflets half an inch long. *Biophytum* is sometimes, in some species, a synonym for *Oxalis*, of which there

are two very common species in Kodaikanal; one, about 6 inches high, with pink flowers, bearing on a straight stem a fourcleft clover leaf so bluntly shaped that each of the four leaflets is wedge-shaped and the whole leaf when opened an almost perfect square; while the smaller species, falling properly among the smallest plants, has small yellow flowers generally half-closed and often hardly noticeable among the thick carpet of low-growing, three-cleft, clover leaves, each leaflet strongly two lobed.

The members of the natural order of *Commelinaceæ*, for which there is fortunately the English alternative of Spiderwort, play in their small way a considerable part in the floral decoration of Kodaikanal. In May, the *Commelina*, the genus from which the family takes its name, said itself to be called after the brothers Commelin, two famous Dutch botanists, begins to gleam from the roadside banks here and there—a rare flash of vivid blue that arrests one's delighted attention. By July one is almost injured if the blue sparkle is not frequent there where it used to be a surprise. It is difficult to describe the height of the *Commelina*: it probably stands on an average about

6 to 8 ins. high, but some of its length is often along the ground and I have seen plants which, creeping and standing, measured 3 ft. It has grass-like leaves, sheathing the stalk for an inch or more before they turn outwards. The stalk takes off at a slight angle from each leaf axil and from the top of one of the top axils springs what at first sight appears to be a different variety of leaf, heart-shaped and sharply pointed, on a slender stalk. This is the bract and growing almost upon it, just at its junction with its stalk, are two or three flower stalks—as a rule only one flower on a stalk and one flower in bloom at a time. This is one of those cases in which we must talk, not of corolla and calyx, but of the perianth; there are three unmistakable round blue petals narrowing into a longish claw, and three small white, rather crystalline, sepals behind and alternate with them; yet most botanists would have us call them merely three petaloid and three sepaloid perianth segments. The stamens are curious. Three are fertile, with an ordinary, two-lobed anther, and three, with heads like little four petalled yellow flowers, are sterile. Older botanists call these infertile ones nectaries.

The style is simple, slender and white, except in the variety *Commelina Benghalensis*, which is more common on the ghaut and on the plains than at Kodaikanal, in which the style is a wonderful spiral and one petal is small and suppressed, so that the effect is as of one petal missing.

A member of the same family, but much more abundant than *Commelina*, is *Cyanotis*, an ugly, clumsy little plant bearing flowers of great beauty. Like the *Commelina*, it half creeps, half stands. The stem, which is thick, much pointed and rather hairy, is sometimes green, sometimes grey or purple. The leaves are often little more than stumps, but flat in the leaf axil, stalkless, crowded round by close-growing, sickle-shaped, brownish bracts, are the flowers, often two or three together: three little blue bluntly pointed petals curling over a little like a dog's ear (whence the name *cyanotis*, blue ear), six softly feathered upright blue stamens topped each by its tiny bright yellow anther. Looking down on it one is reminded of the ceiling of some Continental Lady Chapel—a little blue heaven dotted with regular golden stars. I have said blue; and in some

*Peltata*. I have been able to find the latter only. Once known, this is unmistakable from the long, irregular, red hairs on the leaves bearing the little glistening drops of gummy "dew" with which it secures insects that venture too near. I have often seen a victim held thus to one of the leaves. As the specific name implies, the leaf is peltate, *i. e.*, attached to its stalk by the middle of the underside, not the edge; they are also technically said to be lunate, or moon-shaped, but I think that it would describe them more accurately to say that they form a rough triangle, with the base, or longest side, uppermost and curving, the apex below being blunted. From the two upper corners of the leaf grow specially long hairs, or horns; the leaves are small, looking smaller still from the length of the hairs, and I took them at first sight for the calyxes or bracts of fallen flowers. The leaves, leaf-stalks and stem are all a light green, but all the hairs are red, so that the whole plant looks reddish. The white flowers—five very dark brown sepals, seven petals, five short white stamens—grow four or five together on a group of short flower stalks, out of the very top of the stem, which is 6 to 8 ins. high.

*Parnassia* is a member of the same Order and often to be found near by. On a green stem, quite bare save for a little leaf-like bract clasping it two-fifths of its length above the ground, grows a pretty but insignificant little white flower: five sepals, a bright yellow-green like the stalk, five pointed white petals, five long stamens alternate with the petals, five short ones opposite them, and two leaves on the ground.

The whole Order *Droseraceæ* is included by some botanists under the *Saxifrageæ*—an Order so elastic and all embracing, including, as it does, the gooseberry, hydrangea and “London Pride,” that, as an amateur, one is apt to feel hopelessly that there is no reason why anything should not turn out to belong to it. One saxifrage grows here and there about the Downs which one recognises without difficulty from its great likeness to London Pride. On a slight, harsh, bare-looking branching stem a foot or more high, it bears small, irregular umbels of minute pinkish flowers, with two or more flowers on each secondary flower-stalk, five petals at first cohering as a tube, then separating and curling over.

One plant which, though it never grows closely enough to produce patches of white, is yet by the end of July very abundant all about the Downs is *Leucas helianthemifolia* (N. O. *Labiatae*) a plant about 8 ins. high with narrow, almost straight, smooth-edged, silvery, downy leaves given off in whorls of three at intervals of an inch or more up the stem and almost stalkless. In the axils of the upper leaves are pretty little white labiate flowers. The upper lip is a furry white hood from which the small red anthers of the five distinct stamens sometimes peep, while the lower lip, only furry at its start, spreads wide into three lobes. The cup-like calyx is practically undivided, save for ten tiny teeth; the white corolla peeping from it when in bud looks like a miniature egg in an egg cup. Another species, common on the plains, grows about the road-sides at Kodaikanal. It is very like the first, but the four-angled ridged stem and the slimly ovate, sparsely toothed leaves are green; the white flowers have a smaller, less furry, hood; the calyx is lop-sided projecting over the hood, and leaves and the flowers grow in one thick, globular head. There is



yet another species here with a furry brown hood. The genus is better known by its Tamil name of *Tumbai*.

Another member of the Order, not very plentiful but found here and there where the grass is rather lush or the soil moist, is *Brunella vulgaris*, a pretty little round head of purple flowers, the hood a rich dark purple, the three cleft lower lip lighter, on a sturdy brownish stem with a couple of pairs of slightly toothed leaves much narrowed in to the base.

The harebell (N.O. *Campanulaceæ*) is everywhere among the grass during the earlier months, but has disappeared by July, when what I take to be another of the order, *Companula fulgens*, becomes very common on the Downs. This is about a foot high, with toothed, very narrow, alternate leaves on a brown stem, and almost stalkless against the stem at the top, on alternate sides of it, a pale mauve or dirty white, rather star-shaped, flower with five long narrow sepals, five long pointed petals, five stamens growing out of glands on the fleshy disk above the ovary and one thick purplish style.

*Sopubia trifida* (N. O. *Scrophulariaceae* the Figwort family, to which the fox-glove, snapdragon and verbascum belong) begins in the middle of July to open its little maize-coloured flowers, and by the end of the month has become quite noticeable among the longer grass all about the Downs. It is a lightly waving plant with its slight stem about a foot high, and narrow strips of opposite leaves with the flowers growing out of the leaf-axils on stalks, the top ones a little longer than the leaves, the lower ones a little shorter. The stem is brownish and the whole plant gives one the impression of being brownish, chiefly owing to the buds, which are burnt-sienna coloured before the yellow begins to show, and the brown berries which follow. The flower has five maize-coloured petals, slightly overlapping, with a claret-coloured ring running round them just above the calyx, four stamens growing on the corolla, throat slightly shorter than the petals, with large dun-coloured anthers, the stamens themselves white except where the claret-coloured ring affects them, and a thin green style which remains on to crown the berry. This plant will, I think, be most easily

recognised by a certain likeness to the garden *Verbascum*.

*Striga lutea*, belonging to the same Order, also begins to appear among the grass about the middle of July. It is a little plant, 4 to 6 ins. high, with pairs of the merest strips of leaves at alternate right angles on the stem; the whole plant rasping and inclined to catch on everything, except the primrose-coloured corolla of the little flowers which grow out of the leaf-axils; five long cohering green sepals, and then the corolla, first a long narrow tube, then spreading in a flat pansy-like way, two lobes in the upper division, three in the lower. In the female flower—I have not been able to find the male, and do not know whether it grows on a separate plant or not—the ovary is at the bottom of the corolla tube with a thread-like style, too short to reach to the top of the tube.

Yet another of the Order is the *Pedicularis*, a plant with a yellowish stem generally well over a foot high, with very narrow, rather fleshy, round-toothed leaves, and a fine showy head of blue-pink flowers which I took to be labiate but they are ringent. It is hard to see

how to differentiate between this flower, with its hood of darker pink protecting the four white stamens and the spreading three-lobed lower lip, and a true labiate; the difference is that the lips of the ringent flower gape more widely. The peculiarity of *Pedicularis* is that it is semi-parasitic and grows partially on the roots of surrounding plants. It grows here and there about the Downs, chiefly in moist places, and at a distance one is apt to mistake it for the pink salop.

The *Salop*, or *Satyrium Nepalense*, belongs to the *Orchidaceæ*. It is between 1 and 2 ft. high and is easily recognised by its head which is rather like a thick wheat-ear before it opens, and the brownish-green bracts, which have been folded down one upon another and bend outwards and reveal the little twin-tailed pink flower each has been covering. The leaves wrap the stem at intervals from alternate sides.

Ground orchids are plentiful by the end of July. The little white-flowered *Habenaria* is abundant in the grass on sheltered slopes on the Downs. It is a foot high or less and has rather scanty heads of white flowers, the lower

lip a little fringed and the greenish-white tail about two-thirds of an inch long; the rather pointed leaves on the stem clasping it, the two on the ground rounder and flattened outwards.

At one corner on the way to Pillar Rocks, where the road bends sharply, I have seen in the angle of Down thus formed several *Habenaria longicalcarata*, about 10 ins. high, with a long, curtain-like lip, a green hood and a white tail 5 to 6 ins. long; and on the borders of the lake and in moist spots near the pools on the Downs grows the delicately charming *Spiranthes Australis*. This is perhaps 14 ins. high: a slender stem, two-thirds of it closely wrapped round at intervals by its alternate leaves in the manner which seems typical of the ground orchid, and, winding diagonally round the upper third of it, a spiral of tiny white flowers, the whole slightly fragrant.

Several of the plants given in the District Manual are alarming in name only. *Anagallis Arvensis* is only pimpernel; *Potentilla* is cinquefoil; *Stellaria media* (N. O. *Caryophyllæ*) is chickweed. This last is an insignificant little weed about 6 ins. high, growing in the grass by the wayside, with pairs of small narrow

leaves at long intervals on the stem, and at the top a few rather starry little white flowers, five sepals and five petals. *Curtuligo* (N. O. *Amaryllidaceæ*) one recognises at once from the description given of it in the District Manual, "two or three leaves and a yellow flower close to the ground." The leaves are grass-like and the flower, on a dwarf white stalk, has five rather pointed yellow petals. It grows by the way-side, and I have found it in April and again in July but it is not common.

Plants less easily recognised, which are common along every road-side across the open country by the end of July, are the small-leaved *Crotalaria* (N. O. *Leguminosæ*) with its creeping or hanging stem anything from 6 ins. onwards in length, the spray of yellow pea (or butterfly) flowers which terminates it as big as in the shrubby species—that is, a little smaller than the sweet-pea flower—and with an interval of bare stem between them and the flowers, the roundly ovate leaves an inch or more from one another on alternate sides of the stem—they are sometimes rough and sometimes smooth or glabrous,—and the tiny species

of *Osbeckia* (N. O. *Melastomaceæ*) *O. cupularis* of which the four small petals, white splashed with crimson, begin to peep from the hairy calyx in which they are almost buried late in the month. It is a small plant, often only about 10 ins. high, but the hairy leaves with the five veins running from base to tip remind one at once of the *Osbeckia*. So does the large, rather ugly, hairy calyx; the stem is angular, hairy and very woody for so small a thing. There are six stamens with thick yellow anthers and one erect, fleshy green style.

*Knoxia* (*Rubiaceæ*) is the rather low growing plant which grows everywhere on the Downs, and along the roadsides from May onwards. It has pairs of harsh, strongly ribbed, vivid green leaves; a reddish stem with an irregular circle of bristles round it between each pair of leaves, and a flattish head—an irregular compound umbel or umbels of darkish purple flowers which seem to have a sort of bloom over them. Flower-stalks sometimes grow out of the axils of the leaves, too. There are four purple sepals and four petals, united into a tube at first, then spreading; the flower is in bud for so long a

time, that one begins to think that it can never open out.

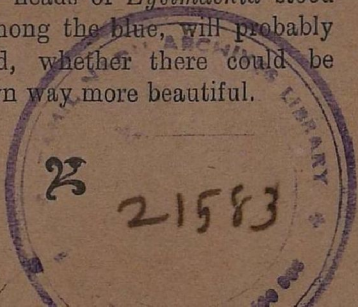
*Swertia*, which grows near *Knoria*, looks as if it must belong to the same Family, with its pairs of leaves (though these are smooth, not ribbed), and its heads, rather longer and less flattened, of lilac-coloured little flowers—pink when quite opened—in which again the calyx is coloured giving the idea of there being two corollas, one within the other. It belongs, however, to the Gentian family.

The Gentians themselves (N. O. *Gentianaceæ*) are represented by two species. One is a big plant 2 or 3 ft. high, with purplish flowers the size of a geranium blossom, five pointed petals, five yellow-anthered stamens on the corolla, and pairs of smooth, stalkless, ovate, pointed, three-veined leaves—commoner on the ghaut about 1,000 ft. down than about Kodaikanal itself, though it is found at the Fairy Fall. The other is the tiny, charming, *Gentiana Quadri-faria* which twinkles at one from underfoot here and there on the roads across the Downs, perhaps more on the way to Pumbari than on the other side. The small brown stem is almost hidden by the little leaves flattened against



it, the tip of each all but over-lapping the base of the one above; the little-flower that tops it is of a deep brilliant azure, and very starry with its ten rather pointed petals. There are five thin stamens alternate with the petals, bearing purplish anthers and one white style, two-lobed.

I have carried out my proposal to take my flowers in order of their size, for this, which is sometimes less than an inch high, is surely one of the smallest of flowering plants, and it seems to bring to a fitting conclusion my attempt to describe some of the floral beauties of Kodaikanal. For, though it is hard to get this little flower home unfaded, anyone who will seek it out and find it, as I once found it, on the hill slopes above Nettle Shola, where a patch of ground was carpeted with its vivid azure, while rosy heads of *Lysimachia* stood here and there among the blue, will probably wonder, as I did, whether there could be anything in its own way more beautiful.





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