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Summer Holidays
1895
& 1896

The Plants of La Panne - Belgium

The Plants of Corfe Mullen, Dorset

Botany Holiday Work

Summer Holidays. 1895

Circulation Form. Agnes Robertson

The Flora of the Dunes of La Panne-sur-mer, Belgium.

{As seen between August 28th & September 15th
1895}

Between Dunkirk & Nieuport the dunes, which extend along the coast, attain their maximum dimensions, & among the very finest of them, about 10 miles from Dunkirk, the little village of La Panne is situated. The sand hills extend inland from 1200 to 2300 metres, the highest, which is near La Panne, being 35 metres above sea-level. This great expanse of country is quite wild & uncultivated except for a few plantations of poplars, & the little "lopins" or small holdings, tilled by the peasants. The sand is everywhere honey-combed with the burrows of rabbits who very likely perform good service in turning

up the soil.

A good idea of the flora of the dunes can be gained by a ramble of a few hours, which does not necessarily involve going a great distance, on account of the innumerable ups & downs we have to passover. Walking inland from some point on the beach where great clumps of sea rocket, & prickly saltwort grow in the sand, we scale a precipitous sandhill fairly covered with the sea matgrass, or marram. This latter, which grows here naturally & has also been planted, has a most wonderful power of binding & consolidating the sand. It has been used all over the world for this purpose. It is practically indestructible - burning, cutting, or eating off only makes it thrive - whilst in exposed shifting sand it propagates as surely as in the most sheltered position. The grass will retain its vitality & strike root after being out of its sand-bed for three months or more." In the "Guide Illustré de

(* Otago Times July 1893)

la Côte de Flandre" by Grand'Ardenne it is referred to in the following words: "Une simple graminée, l'hoyat (psamma ou ammophila arenaria) a été l'agent principal de la consolidation de la dune; grâce à lui, elle a pu être autre chose qu'une forme vague perpétuellement changeante sous les souffles qui la pétrissent et constamment dégradée. L'hoyat est, par excellence, la plante de la dune; il semble fait pour elle, il y vit, [illegible] dans l'air l'humidité dont ses racines sont privées et résistant aux plus fortes chaleurs. L'industrie de l'homme, en multipliant les touffes d'hoyat a créé sur les dunes d'innombrables obstacles minuscules qui entravent l'envolée des sables secs. Et ce n'est pas aujourd'hui que sa culture est préconisée et officiellement pratiquée: des lettres patentes d'Henri IV datées de 1608, ordonnent "de planter des hoyats de pour arrester l'invasion des sables sur les costes de France." One side of

the leaf of the "hoyat" is whitish, ridged, & furnished with many minute hairs or prickles, whilst the other side is green & smooth. During the day the blade is rolled in from the edges so as to conceal the paler side, & it only opens out flat at night & in wet weather. I have seen a horse eat this grass, but it is very tough & hard. On breezy days the long blades are swept round by the wind, very often with their points touching the ground, so that they act as compasses, & one may see segments of circles or even complete circles marked in the sand round isolated tufts. When we reach the top of the dune we see below us, first, a bare sweep of sand, then, a few purple thistles in the hollow, & opposite us, another little hill covered with ragwort. This is one of the most noticeable plants of the dunes, magnificent in its wealth of golden blossoms, & soft feathery winged seeds. On one specimen I have counted 670 heads, not

including buds & faded flowers. It seems to be a favourite with insects, for I have seen at the same time on one plant, four tortoiseshell butterflies, six bees, & a moth. On the ground among the ragworts little wild pansies (Fig 2) grow. They are much larger than the English field pansy, & much richer in colour. Usually the upper petals are purple, the next two faintly tinged with the same colour, & the bottom one creamy with black lines, & a touch of bright yellow in the centre. However they vary immensely from a rich red purple to almost pure white. There are scarcely ever two alike. Here & there we see a capsule wide open, with its rows of tiny, brown, jewel like seeds. These little pansies are very characteristic plants here, growing all over the dunes & in great quantity. A little rough walking brings us over the summit, & down a slope, where the seeds of the houndstongue catch in our clothes, into a bushy hollow full of a kind of dwarf willow, whose leaves are covered with silvery silky

hairs. I have found some specimens with almost white leaves, & some nearly glabrous. Late in the year as it is, a few catkins are still left, the pistillate ones quite yellow with pollen from the staminate, which are softly hairy. The yellow is repeated in the lichens which cling to the rough bark. Thistles & ragwort spring up among the willow branches, & it is a famous place for dewberries, both flower & fruit. Among the [illegible] that pole their way through the tangle are the little milkwort, {Fig 9} varying in colour from bright blue almost to white, the aromatic water-mint, bird's foot trefoil, prunella, hawkweed, & germander speedwell. As we come up the other side of the hollow we find rock-roses {Fig 3} with their delicate bright yellow flowers, & sweet-smelling plants of wild thyme. When we have passed over a bank covered with dry brown moss (which after a shower would be golden green), & a few plants

of storksbill & rest harrow, we come to a little plain, or "panne" as it would be called here, quite carpeted with blossoms. The silvery branches of the dwarf willow, here seldom rising above a few inches form a fitting background to the purple loosestrife with its leaves prettily fringed with red, the dainty little eyebright, the tormentil & lady's slipper, the cathartic flax, & the pure white grass of Parnassus {Fig 8} with its delicately veined petals & fringed stamineds. The last which grows in [illegible] the hollows among the dunes is quite the loveliest & most fairy like flower we shall see. There are a great number of the leaves & seed-cases of buds which have flowered earlier in the year, & occasionally we may see a capsule opening to discharge its saw dust-like contents. Here & there we find spikes of the musk orchis {Fig 4} with its rich honey-like scent. The centaury {Fig 5} & Autumn gentian {Fig 10} flower before they have attained the height of 2 inches, making bright

spot of colour in the sunlight, but closing sensitively under a cloudy sky. The black saltwort, which we find in fruit, reminds us how near we are to the sea. Close by this grows another plant now in fruit, the bog pimpernel. There are also some plants of the silver weed & hop trefoil. The peculiarity of the latter is that the standard persists & completely covers the pod. The fruit heads are orange-brown & open, but for their colour look just like miniature hops. At the edge of our little plain we come to a thicket of the sea buckthorn or sallow thorn (Hippophae), one of the most beautiful & striking plants which grow on the dunes. It has many sharp thorns & its leaves are long & narrow, & covered underneath, & a little above with a kind of grayish scurf with tiny rusty specks. It is now in fruit, & its stems are thickly & closely covered with orange berries. The effect of the rich orange

colour seen through the gray-green leaves is wonderfully picturesque. The berries smell rather like pineapple, & the village children eat them, (they call them "jarbikurs"), but the taste is curious & unpleasant to those unaccustomed to them. The method by which the pollen is pricked on the flower is very interesting. The male flowers are arranged in spikes & are seated in the axils of scaly bracts at the bases of the young catkin shoots. In each flower are four anthers which burst & set free their abundant powdery pollen whilst the flower is still closed like a bud & has the appearance of a little bladder. This pollen is of an orange colour, & drops to the bottom of the flower, where it remains awaiting a dry wind to transport it to the stigmas of the female flowers growing on other plants often at a considerable distance. Several days may go by before this kind of wind sets in, & meanwhile there is the danger of the store of pollen being soaked by rain or dew &

rendered unfit for dispersion. To obviate this risk the pair of curved perianth leaves, which have their concave surfaces turned towards one another, & form, as has been already mentioned, a kind of bladder enclosing the anthers & pollen, dehisce at the sides only. Thus two opposite gaps are produced, whilst at the top the two valves remain joined together & form an arch completely protecting the masses of pollen from atmospheric deposits. When the needful wind arises it blows the pollen out through the chinks in the bladder & conveys it to the stigmas of other plants of the same species. Among the bushes carline thistles grow in quantity. Humble bees are very fond of them, & you may often see two or three at a time on one plant. In an open space we come upon a little nursery of dwarf gentians, fifty little plants! none more than two or

(* Kerner)

three inches high, & all in flower, in a space of about a square yard. Near this we find the curious bastard toadflax. It is a low trailing plant with rather inconspicuous starlike flowers. It is partly parasitic on other plants, & if you pull up its white branched roots you find them covered with little swellings or suckers, which have formed wherever they came in contact with the roots of other plants. In one a little piece of dead root is seen passing through the middle of the swelling which has formed round it. This plant is the only British representative of the order to which the Sandalwood belongs. Going on a little further we come to a plant of the thalictrum in fruit, its graceful panicles of achenes, rising out of a tuft of maidenhair like leaves. We now plunge into a rather damp part of our little thicket, where the marsh pennywort is growing luxuriantly & flowering. The meadow

is there with its long feathery fruit heads, & the purple loosestrife, which grows much taller here than in the "panne". Suddenly we come out upon an open space alive with bees & butterflies. It appears to be a favourite haunt of the tortoiseshells, who are always to be seen sipping honey from the mint which grows there in profusion. Once I counted fourteen doing this at the same time. In this clearing there are several very fine plants of a kind of wild brassica, & also a single specimen (the only one I have seen) of Echinospermum lappula, one of the few plants which grow on the dunes, & are not found in some part of Britain. It is one of the boragineae, with flowers like a forgetmenot & very rough nuts. We come out of the thicket into a little path between the buckthorn bushes. Many of the plants we have noticed before grew on either

side of the path, & among the new ones are the Nottingham catchfly & the sheepsbit. The Nottingham catchfly is very much like the ragged robin, but white instead of pink & with the upper part of the stem viscid. The stamens & styles hang out of the graceful drooping flowers, which only spread out at night. The sheepsbit (Jasione) belongs to the campanulaceæ, but looks very much like a bright blue scabious until you examine it closely. A little further we come to a genuine scabious, the tall & handsome "devilbit". Turning aside from the path, & plunging through a little plantation of poplars we come to an open grassy space, with a great many fine clumps of grass of Parnassus, & here & there a raceme of cream coloured flowers on long slender peduncles, rising out of a little tuft of roundish leaves. This is the "winter green [Pyrola], a rare & beautiful plant, which we find in

a good many places on the dunes. As there seem to be no other fresh plants here we return to the path, which presently leads us beside a high sandhill, covered with matgrass. We climb this & find that we are on the edge of a kind of sand crater, a great bare sandy hollow. Descending into it we find at the bottom matted cushions of the knotted pearlwort (Sagina), with its star like white flowers & tiny stem leaves sometimes tinged with red. We then scramble up the other side of the hollow, where the sand is so fine & soft that a touch sends it flowing down almost as if it were liquid, & see below us a green & bushy valley. After poking about a little among the buckthorn bushes we come upon a handsome orchid spike, more than a foot high, with many green & dingy purple flowers. This is the broad-

-leaved epipactis (Epipactis) which seems to be not uncommon among the dunes. A little further on we come to some faded flowers of the yellow birdsnest (monotropa hypopitys). This is a very curious plant saprophytic parasitic on roots. It contains no chlorophyll, & consists of a thick juicy brown stem with scale like leaves, bearing a raceme of flowers. Close by is a tall plant of the common gromwell. Its flowering season is over but it bears a great many of the shining stony nuts from which it takes its name (lithospermum). Our attention is also arrested by the fruit spikes of the common veronica, & by a pretty little flower, not unlike the Michaelmas daisy, & burdened with the name of "fleabane erigeron." A little further on we see a great tall burdock plant with its purple flowers & prickly burs. The ground has been gradually rising & at last we reach a sharp

ridge on which magnificent plants of the viper's-bugloss are growing, one of them measuring about 3 ft high. A steep descent brings us down to a flat sandy piece of ground beyond which is a little cultivated patch. It is covered with plants of St. John's wort, & equisetum bushes. Turning back again in the direction of the sea we come into a little path with Autumn [illegible] & [illegible] in the grass at the edge. On either side we see tall plants of the loosestrife, forming with the ragwort & St. John's wort, a perfect harmony in yellows. The path winds in & out & up & down, passing at one time beside a hollow where the dwarf thistle grows, & where after rain we can find among the moss a little alga like lumps of green jelly, & at another beside a bank with kidney vetch in fruit, & a few belated flowers. On the edge of some cultivated ground

we come to one or two clumps of the cut leaved mignonette. A short walk brings us to a fairly flat valley which is only divided from the sea by one range of dunes, & there we leave the path, & go for a little way parallel to the sea. The ground is covered with the prickly & often reddish branches of a kind of dwarf rose known as the Burnet or Scotch rose (Fig 12) We can see no flowers here, but if we turn a little inland we find that when they can get no shelter some of the branches have produced Autumn blooms; very pretty, white flowers, just tinged with cream. As we walk over the branches we discover a very faint scent, just reminding us of sweet briar. Further on we come to a great many rough & straggling plants of the common alkanet [Fig 2] This plant, which is rare in England, has flowers of a rich dark purplish-blue. Another of the

boraginea is here also, the small bugloss, with its pale blue flowers & curiously bent tube. Among them are some very pretty plants of the scarlet pimpernel. We now have only to climb a dune, & walk a little way along the sea shore, & we shall find ourselves at the point where we started.

Such a walk as this ought to be taken at the end of August or the beginning of September. It gives but a slight idea of the wonderful variety of plants to be found on the dunes. Principally we have the plants which usually grow in dry pastures, such as the rock rose, carline thistle, kidney vetch, thyme, trotting fox, catchfly, & sheep's bit; & those plants which are usually found near the

sea as the black saltwort, prickly saltwort, sea rocket, sea mat grass, burnet rose, sea buckthorn & stork's bill. As the sand is very porous, It is surprising that bog plants, such as the grass of Parnassus, bog pimpernel, purple loosestrife, knotted pearlwort, & marsh pennywort flourish here, but there must be plenty of water near the surface as there are a good many little ponds. We have [illegible] several of the plants which specially frequent waste places, as the viper's bugloss, hound's tongue, alkanet, & cut leaved mignonette. The dwarf centaury & gentian, & the numerous other little plants with relatively larger brightly coloured flowers give rather the appearance of the Alpine flora to some parts of the dunes. We also have plants, such as the epipactis & twayblade

which are most commonly found in woods.
With such a variety it seems next to impossible to discover any prevailing characters induced by the habitat.
The only thing which I have specially noticed is that the larger plants which flourish best here are nearly all hairy. The ragwort, dwarf willow, & sea buckthorn are particularly hairy, & I have found no less than six different species belonging to the order brassicae, a family which is so characteristically rough-leaved as to have been formerly called asperifoliae. This hairiness is possibly a protection to the stomata in the stand storms which occur in a high wind. The small plants, which are protected by the larger ones, are not peculiar

in this respect.
This sketch of the flora of the dunes is very slight & imperfect, for a weeks is a short time in which to observe the plants of a place where each day only serves to shew us more & more in what a "happy hunting-ground" our lot is fallen.

P.T.O.

List of plants found in flower or fruit
Between Aug: 22nd & Sept: 13th
On the dunes at La Panne
Belgium
{N.B. Those only found in flower fruit marked with asterisk}

Ranunculaceæ	Thalictrum — *	Meadow rue
"	Ranunculus flammula	Lesser spearwort
Cruciferæ	Cakile maritima	Sea rocket
"	Brassica campestris (?)	Field cabbage
Resedaceæ	Reseda lutea	Cut leaved mignonette
Cistaceæ	Helianthemum vulgare	Common rock rose
Violaceæ	Viola —	Wild pansy
Polygalaceæ	Polygala vulgaris	Common milkwort
Caryophyllaceæ		
Subord: Silenæ	Silene nutans	Nottingham catchfly
" " Alsineæ	Sagina nodosa	Knotted pearlwort
Hypericineæ	Hypericum perforatum	St Johnswort
Linaceæ	Linum catharticum	Cathartic flax
Geraniaceæ	Geranium molle (?)	Dove's foot cranesbill

	Erodium cicutarium (?)	Sea stork's bill
Papilionaceæ	Ononis arvensis	Rest harrow
	Trifolium procumbens	Hop trefoil
	Anthyllis vulneraria	Kidney vetch
	Lotus corniculatus	Bird's foot trefoil
Rosaceæ	Rubus caesius	Dewberry
	Potentilla tormentilla	Tormentil
	" anserina	Silverweed
	Rosa pimpinellifolia	Burnet rose
Lythraceæ	Lythrum salicaria	Purple loosestrife
Crassulaceæ	Sedum acre	Stonecrop
Saxifragaceæ	Parnassia palustris	Grass of Parnassus
Umbelliferæ	Hydrocotyle vulgaris	Marsh pennywort
Stellatæ	Galium verum	Yellow bedstraw
	Galium mollugo	Hedge "
	Asperula —	
Dipsaceæ	Scabiosa succisa	Devil's bit scabious
Compositæ	Erigeron acris	Fleabane erigeron
	Senecio jacobæa	Ragwort
	Inula dysenterica	Fleabane
	Carduus acaulis	Dwarf thistle

	Arctium Lappa	Burdock
	Centaurea nigra	Hardheads
	Carlina vulgaris	Carline thistle
Campanulaceæ	Jasione montana	Sheep's bit
Ericaceæ	Pyrola rotundifolia	Wintergreen
	Monotropa hypopithys*	Yellow birdsnest
Primulaceæ	Lysimachia vulgaris	Yellow loosestrife
	Glaux maritima*	Sea milkwort
	Anagallis arvensis	Pimpernel
	Centella*	Bog " Blackseathorn
Gentianaceæ	Erythræa centaurium	Common centaury
	Gentiana amarella	Autumn gentian
Boraginaceæ	Echium vulgare	Viper's bugloss
	Lithospermum arvense*	Common gromwell
	Anchusa officinalis	Common alkanet
	Lycopsis arvensis	Small bugloss
	Cynoglossum officinale	Houndstongue
	Echinospermum lappula	
Solanaceæ	Solanum dulcamara	Bittersweet
	" nigrum	Black nightshade

Scrophulariaceæ	Veronica officinalis*	Common veronica
	" chamædrys	Germander speedwell
	Euphrasia officinalis	Eyebright
Labiatæ	Mentha aquatica	Watermint
	Thymus serpyllum	Thyme
	Prunella vulgaris	Selfheal
Santalaceæ	Thesium linophyllum	Bastard toadflax
Euphorbiaceæ	Euphorbia paralias (?)	Sea spurge
Amentaceæ	Salix —	Willow
Elæagnaceæ	Hippophae rhamnoides*	Sea buckthorn
Orchidaceæ	Herminium monorchis	Frog orchis
&	Epipactis latifolia	Broadleaved E.
Gramineæ	Psamma arenaria*	Marram

(67)

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(N.B. Out of the 89 British orders 32 were found represented in flower)

Botany Holiday Work
Summer Holidays 1896

Upper Va Agnes Robertson

The flora of the district about Corfe Mullen, Dorset
(Assessed between July 31st & Aug: 13th 1896)

The village of Corfe Mullen is situated in Dorsetshire about 9 miles from Bournemouth & 2 miles from Poole & Wimborne. The country consists of stretches of wild moorland, sandy & hilly, glowing with rich purple heather. When the gorse is in full flower as well, & the land is "gleaming with purple & gold", it seems as if Flora, in love for the great nature-queen Demeter had robed her in regal purple & crowned her ~~royally~~ sumptuously. There were quantities of the bell heather, (erica cinerea), & of the (1898)

ling, I also found some of the cross leaved heather (fig 1) with its cluster of pink waxy flowers, most of which were fading. One morning I went for an early walk & found the air filled with "the murmur of innumerable bees" who were breakfasting off the heather honey. One plant of heather I found had quite yellow bells & another had almost white flowers. The first day, coming up from the station we passed plants of bell heather & gorse all in a tangle of the curious little dodder (fig 2) with its reddish whip-like stems with clusters of pale pink flowers at intervals. I have since found it on ling. In the spring the young dodder plants are like tufts of red hair, & this has suggested a curious

name "Satan's hair" by which it is called down here.

Among the heath I found a good many plants of the pink centaury; some were in full flower but many were quite over. A few were dwarfed, I found one almost pure white. I came across another plant allied to the centaury in my first walk over the heath, the perfoliate yellowwort or "sweetwort" with its pretty yellow flowers, but it also was nearly over. Two other members of the same order, the large blue gentian & the small purple gentian flower here in the autumn, but I suppose we were too early for them as I saw no trace of them.

Spreading from a little ditch on the heath I found quantities of the

bog pimpernel (fig 2) with its trailing stems clothed with dainty pairs of bright green leaves & fragile white flowers delicately lined with pink. Its fruits resemble those of the common pimpernel. There were a great many bramble bushes about, which at the time of our visit presented a goodly show of fruit, ripe & black or unripe & scarlet. Looking for blackberries one day I came across a bush of fragrant sweet briar with many large green hips. I have never seen such magnificent honeysuckle as grew among the bushes, with its luxuriant flowers, & few juicy scarlet berries. On the ground among the heather various lichens grew, most of them greyish in

colour. One very pretty one looked as though it were dipped with scarlet sealing wax. (fig 3) A few mosses also grew on the ground, among them the funaria & polytrichum. I found some plants of the tiny allseed (fig 4) with its globular flowers. The ragwort, scarlet pimpernel, & small willow herb grew near by, as did the mint & stachys palustris. Lichens (some of the former) grew freely on the heath. Wood sage, prunella, birdsfoot trefoil & creeping thistle were very common. I saw both rowan trees & hawthorn with fine red berries. I found two small plants of blue viper's bugloss, also some rest harrow & cathartic flax. In a ditch there was a great quantity of marsh pennywort, & at the edge of

a field I came across tall stems of the agrimony clothed with prickly fruit.
Some parts of the heath are very boggy, & there I found fruit spikes of the bog asphodel, with here & there a belated yellow flower, & aromatic bushes of bog myrtle in fruit. Quantities of sphagnum grew in the wettest parts, & a good many plants of the round leaved sundew (Fig 4), with the remains of flies on some of its hungry red leaves. The flowers were just over. The long leaved sundew grows there as well, but I did not find it. The cotton sedge (Fig 7) with its soft white plumes was a conspicuous object in the damp hollows. The friends with whom we were staying

shewed us one place where the stag's horn moss grew. Short green branches covered with small pointed leaves crept along the ground, & here & there a green fruit spike rose from the procumbent stems. The whole plant was softer & smaller than most of its kind. It was the marsh club moss, lycopodium inundatum. I found four kinds of ferns in the moorland; the bracken, which grew very tall & in great quantities, magnificent tufts of blechnum spicant with the fertile fronds rising in the middle, tall plants of the male shield fern, & graceful fronds of the broad shield fern, (aspidium spinulosum).

During a damp autumn Corfe Mullen is a splendid place for

fungi. They are of every hue, some plum coloured, some red, some speckled, & some like branches of yellow coral. While I was there a few small creamy toadstools came up on the tennis court after rain.

By the roadsides I found a good many plants; the common ivy-leaved with its spikes of lilac flowers & angular fruit, the sweet scented white lychnis (L. vespertina) the common hemp nettle, the sand spurrey in fruit, the small-flowered silene (S. gallica), the field filago (f. minima), a St. John's wort in fruit with red tinged leaves, black nightshade & purple knapweed in flower, marsh cudweed, persicaria etc.

One day we visited "the sandbanks" which stretch almost across the mouth of Poole Harbour. The sea mat grass grew there plentifully, also much bell heather & ling, gorse, & various conifers. I found some polytrichum with its urns full of a mass of green spores. Lichens were very plentiful, more so than at Corfe Mullen, & I found a feathery grey one which covered great extents of ground bearing pretty chocolate apothecia. In a hollow I came to a quantity of a heath-like plant with the edges of its dark green leaves turned back till they met. When they met was a white line. This gave the leaves a curious effect. In the axils of the upper ones were tiny buds. This plant was

empetrum nigrum, the crowberry. Tufts of sea rocket (cakile maritima) & prickly saltwort grew on the shore. I came across a good many specimens of the pretty blue jasione, "sheep's bit". It is interesting to compare the flora of these sandbanks with that of the dunes of La Panne, Belgium. The greatest difference appears to be that "the sandbanks" are rich in ling, heather, & coniferæ, which are absent from La Panne, where the most noticeable plant are the sea buckthorn & ragwort. But there are several points of similarity. The sea mat grass, jasione, sea rocket, lichens & prickly saltwort are common to both.

Short excursions in various

directions bring one to all sorts of delightful places. One day, between Wareham & Corfe Castle we came across a lovely bog (about 11 or 12 miles from where we were staying). We left our bicycles by the roadside & clambered down into it. There I found a very handsome plant which only occurs in Dorsetshire & Cornwall, the cilated heath, & also some dainty specimens of the pale butterwort*, a charming little flower. Sundew, sphagnum, & lesser spearwort grew in abundance. Another bog which we passed a little further on, contained an immense quantity of sphagnum & some lovely St. John's wort. In roads & lanes near Corfe Castle, Ploughman's spikenard, yellow

*(See note at end of essay)

vetchling, willow herb, mint, rock rose, marjoram & bur reed were flourishing.

To do justice to this subject long & careful observations would be needed & nothing can excuse the extreme scrappiness of this essay except the fact that I had barely a fortnight to explore this part of Yorkshire which is indeed a perfect treasury of plants.

* Note on the butterwort

In Johns' "Flowers of the Field" I found, quoted from Lindley, the following note on pinguicula vulgaris, an allied species to the pale butterwort:- "Pinguicula vulgaris (common butterwort) has the property of giving consistence to milk & preventing its separating into either whey or cream. Linnæus says that the solid butter of the Lapland is prepared by pouring it, warm from the cow, over a strainer on which fresh leaves of pinguicula have been laid. The milk, after passing among them, is left for a day or two to stand, until it begins to turn sour; it throws up no cream, but becomes compact & tenacious, & most delicious in taste. It is not necessary that fresh leaves should

be used after the milk is once turned: on the contrary a small portion of this solid milk will act upon that which is fresh, in the manner of yeast."

I was anxious to try if this was also true of pinguicula lusitanica so I placed a few leaves in a glass of milk & left it to stand. There were several difficulties in the way. First the leaves were not fresh, having been gathered for more than two days & having travelled from Devonshire to Kent, secondly the milk was not warm from the cow & thirdly I was not using the species of pinguicula mentioned by Linnaeus. But the experiment succeeded fairly well. After two days I took the milk out of the cupboard where it had been standing & found that it had become quite solid. It had thrown up about a quarter of an inch of cream & the rest was very much like a junket in taste & consistency.

Plants in flower at Clapham Yorks

June 25 - July 5 1900

Ranunculus flammula, acris, repens

Caltha palustris

Meconopsis Cambrica (perhaps introduced)

Nasturtium officinale

Barbarea vulgaris

Cardamine pratensis

Sisymbrium officinale subsp alpina

Capsella bursa pastoris

Helianthemum vulgare

Viola tricolor subsp lutea

Polygala vulgaris

Lychnis flos cuculi

Cerastium arvense

Stellaria graminea

Sagina nodosa

Montia fontana

Linum catharticum

Geranium sylvaticum, dissectum, Robertianum, lucidum
pratense

Empetrum nigrum
Genista tinctoria
Ononis spinosa
Trifolium procumbens
Lotus corniculatus
Vicia sepium & cracca
Lathyrus macrorhyzus
Rubus fruticosus
Geum urbanum, G rivale
Fragaria vesca
Potentilla tormentilla P anserine
Alchemilla arvensis, vulgaris
Poterium sp
Rosa canina
Crataegus oxyacantha (very late)
Saxifraga hypnoides
Sedum villosum
Epilobium sp
Heracleum sphondylium
Sambucus nigra

Galium cruciata & sp
Valeriana dioica
Bellis perennis
Achillea millefolium
Cnicus heterophyllus
Lapsana communis
Vaccinium myrtillus
Arctostaphylos uva ursi
Erica tetralix
Primula vulgaris (very late) P. farinosa
Lysimachia nemorum
Anagallis tenella
Symphytum officinale
Myosotis palustris
Plantago major P lanceolata
Scrophularia nodosa
Digitalis purpurea
Veronica chamaedrys, officinalis, Beccabunga
Euphrasia officinalis
Rhinanthus crista-galli

Pedicularis palustris, Melampyrum
pratense, Pinguicula vulgaris
Thymus serpyllum
Brunella vulgaris
Stachys sp
Ajuga reptans
Herba sp
Listera ovata cordata
Orchis latifolia
Habenaria conopsea bifolia
Iris pseudacorus
Allium ursinum
Scilla nutans (vaglata)

Note Pinguicula vulgaris in boggy places by Austwick
Beck also in crannies in limestone
pavement on top of Norber. In one place a
whole row growing squeezed up at the bottom of
a narrow fissure so that the leaves of each plant
could really only grow out in one plane

They seemed most flourishing. The flowers of
the plants higher up seemed bluer + more
purple than the ones on the low boggy ground
Wood anemone + wood sorrel + Thalictrum
also grew in the crannies, + I think I saw
leaves of Convallaria majalis

Found 3 plants of Botrychium lunaria in
quite separate places
Lycopodium selago grew close by top of Ingleboro'
Alchemilla vulgaris. Unusually large on top of
Simon Fell

(See over)

Sept. 26th 1900
196 Green Lanes
Finsbury Park
N

Dear Miss Robertson,

You were so kind as to let me have thro' Mr Hawes an interest list of Clapham plants for my friend Mr Wilson of Ilkley - this has remained unacknowledged for three months - for several weeks I was going about in the north - and on returning have heard that it had transpired that you were a friend of our cousins the Georges at Streatham which gave me the opportunity of getting your address -

My friend is writing, in collaboration with another gentleman, a Flora of West Lancashire - a district marching with that in which we were - He has spent many days also on the Craven Hills, and was much interested in your list - He made a few remarks on it, which I thought might be a little use to you if you were in that district again.

Amongst "plants in crevices of limestone on Norber" you mention Thalictrum flavum (leaves)

Mr Wilson suggests rather T. minus var. montanum

Convallaria majalis (leaves)

You put a query-mark. (He says "Just the place".)

The fern

Asplenium nigrum

Mr W. thinks more likely A. trichomanes

A. nigrum in his experience being almost confined to slate rocks.

Amongst the "plants in meadow-grass & boggy ground by Austwick Beck" is ~~enumerated~~ mentioned

Orchis pyramidalis.

He feels sure this would be either O. latifolia or its subspecies O. incarnata.

Again thanking you for your kindness in preparing the list, and apologising for the long delay in acknowledging it, I am yours truly

R. Christie Burn

Brittany. 1898

Sept-20.98. Wolffia arrhiza in a pond close to the Chateau de Coumnais nr Dinan. It was kept in water & after a time a number of little plants sank to the bottom, still looking fresh + green. Winter buds ?.