The Flora of the Eastern Border of Somerset.

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THE eastern portion of Somerset in which we are now assembled may be briefly described as a slightly elevated inland calcareous district in the south of England, and our local flora, of which I have been asked to give you a short account, is in the main just what a botanist would expect to find in a district with these physical characters. The tract of country to which my present remarks relate is not bounded by any definite limits, except those of the county, but extends along the border of the county from Bath to Castle Cary; most of my observations have been made in the neighbourhood of Frome and Beckington. I have purposely stopped short of the sea coast and the turf moors, as well as of Bristol and Cheddar, where plants of a different and peculiar type of distribution are found. The flora of the eastern border of Somerset presents but few special characteristics; nor are very many rarities found here: our plants consist partly of such as are generally diffused throughout Great Britain and partly of species which in their distribution are confined to the south of England; but few species of an eastern, northern, or western type being found. Those who are acquainted with the works of Mr. H. C. Watson will remember that as regards their distribution the plants of Great Britain may be classed under six principal types, viz., a British type, consisting of those plants which are found throughout the length and breadth of Great Britain, *e.g.*, the daisy; an English type, plants that are more or less abundant in the south of England, but which thin out as we proceed northward, and barely reach to Scotland, *e.g.*, *Colchicum autumnale*; a Scottish type, consisting of plants which have their head quarters in Scotland, and diminish in frequency as we proceed southward;

a Highland type, comprising the most highly arctic and alpine species; a Germanic type and an Atlantic type, the former frequenting especially the eastern and the latter the western portions of our island. Of the 1370 species enumerated in the text of Watson's *Compendium*, I have observed 632, or not quite one half, in this neighbourhood. Of the 632, 449 belong to the British or British-English type, 121 to the English, 34 approach the Germanic, and 10 each the Atlantic and Scottish types, while 8 are of local or doubtful type. We are accustomed to consider Somersetshire in the west of England, and by Mr. Watson it is joined with Devon and Cornwall to form his peninsula province, yet it will be seen that the eastern plants in my catalogue considerably outnumber the western. One reason for this local preponderance of eastern species is that there are actually more plants characteristic of the east of England than there are of the west, the number of the latter being 89, and of the former 171, or nearly twice as many. But another reason is that the character of the flora of a district depends very much upon the nature of the soil, and although the eastern border of the county is politically a part of Somerset, yet geologically it forms part of the belts of oolitic and cretaceous strata which stretch across England from south to east, and a comparatively small portion of its surface rests upon the palæozoic rocks of the west. Yet the absence of the wild madder, *Rubia peregrina*, and of *Sedum anglicum*, two of the most abundant and typical western species is noteworthy, for we have in the neighbourhood many rocky limestone slopes, on which, it might be thought, they would have found a congenial home. The eastern species are as a general rule found growing either on the chalk or on the limestones and marls of the lower oolites.

Of the great variety of strata met with in this neighbourhood —a variety so great that its like is hardly to be found in any other part of England, comprising as it does most of the geological formations, from the old red sandstone and basalt to the

chalk inclusive,—almost all are more or less calcareous. The chief exceptions are the green-sand and the old red sandstone, and on these we find a flora very different, both as regards what it does and does not contain, from that on the calcareous strata. Of plants found on the limestone and marly strata the most characteristic belong to the natural orders *Leguminiferæ*, *Rosaceæ*, *Umbelliferæ*, *Gentianaceæ*, *Compositæ*, *Labiatæ*, and *Orchidaceæ*. Among them I may mention *Hippocrepis comosa;* the wild liquorice, *Astragalus glycyphyllos;* the woodwax, *Genista tinctoria*, formerly much gathered for dyeing; the lesser burnet; the wild carrot and parsnip; *Torilis infesta*, and *T. nodosa;* *Senecio erucifolius;* *Erigeron acris;* *Picris hieracioides;* *Calamintha officinalis;* *Gentiana Amarella;* *Chlora perfoliata;* and the beautiful bee orchis. The barren wet marls of the forest marble and fuller's earth in particular, bear a very characteristic calcareous flora, closely resembling that found on the chalk, more attractive however to the botanist than to the farmer, for the herbage is thin and harsh, being to a great extent made up of "carnation grass," *Carex glauca*. The flora I speak of may be well seen at the sides of the road between Beckington and Frome on Bonnyleigh and Oldford Hills. On this soil the rare grass-leaved vetch, *Lathyrus Nissolia*, grows, and a profusion of orchids may also be found. In a field called Barrow Hill, or Elm poor grounds near Buckland Dinham no less than twelve species may be found, including the uncommon *Herminium Monorchis*, and *Spiranthes autumnalis*. On the other hand many plants common on the sandy soils are either absent or very scarce on the calcareous ones, *e.g.*, *Lastræa Oreopteris*, *Blechnum boreale*, *Papaver Argemone*, *Spergula arvensis*, *Lycopsis arvensis*, *Salix repens*, *Rumex Acetosella*, the heath tribe, the fox-glove, the *Sphagna*, and others: indeed the different facies of the vegetation is often so striking as to show at a glance the nature of the soil. The heaths and whortleberry are in my experience never found on limestone; the only instance that I know of either of them growing on the oolites is at Road Common, where a few

stunted plants of ling are found, together with the harebell and one or two heath-loving mosses and lichens, to bear witness like the name and the straight roads, to the comparatively recent date at which the land was enclosed. The geological formation here is Oxford clay, the surface bed being a sandy gravel, the Kelloway rock, so that the exception proves the rule. Several plants very common on a sandy soil in many places seem to be absent in this part of Somerset. I have not found here *Senecio sylvaticus*, *Scleranthus annuus*, *Spergularia rubra*, *Jasione montana*, *Plantago Coronopus*, nor *Anthemis nobilis*, although some of them grow in neighbouring parts of Wilts. Owing to the rarity of anything like a peaty soil, we have very few bog plants in our local flora, *Pinguicula vulgaris*, *Parnassia palustris*, *Genista anglica*, *Andromeda polifolia*, *Hypericum elodes*, *Rhynchospora alba*, and *Potentilla Comarum* are not found here. The sundew, the cotton grass, the cross-leaved heath, and the bog asphodel are confined to one or two boggy places on the Mendip hills, where the old red sandstone rises to the surface. *Viola palustris*, *Veronica scutellata*, *Hydrocotyle vulgaris*, the dwarf willow, and the bog-mosses (*Sphagnum*) are found on the green sand as well. Of maritime plants we have of course next to none. *Trichostomum crispulum*, a moss which grows on exposed carboniferous limestone rocks at Mells is the only undoubtedly wild example. The sea thrift, *Armeria maritima*, grows in some plenty in a stony field at Great Elm, but may have been carried thither with garden rubbish. The celery, the fennel, *Smyrnium Olusatrum* and *Erodium moschatum*, also occur in the neighbourhood, but have probably been introduced. The ubiquitous sea-weeds, *Cladophora glomerata*, and *Enteromorpha intestinalis*, are found in some of our streams.

Alpine plants are absent, as our highest hills do not attain 1000 feet, Bradley Knoll being 948 feet and the highest point of Mendip at the eastern end 999 feet. As regards altitude, the whole of this neighbourhood, with the exception of the higher hills, lies in the infer-agrarian zone, the first of the six

zones of Watson. The characteristic plant of this zone, *Clematis Vitalba*, may be found as high up as the foot of Bradley Knoll, a height of 600 to 700 feet, but it does not climb the slopes of the knoll, so that here we seem to attain to the second or mid-agrarian zone. We have a few plants which are chiefly found in hilly countries, such as *Vicia sylvatica*, *Rubus suberectus*, *Pyrus Aria*, *Draba muralis*, *Lastræa Oreopteris*, *Polypodium Phegopteris*; the mosses, *Tetraphis pellucida*, *Hypnum loreum* and *brevirostre*; and the lichens, *Sticta pulmonaria* and *fuliginosa*, and *Peltigera horizontalis*, but the mosses and lichens so characteristic of mountainous countries, *Hedwigia ciliata*, *Lecidea geographica*, and the genera *Andreæa*, *Racomitrium Sphærophoron*, *Cetraria*, *Stereocaulon*, and *Cornicularia* are not, so far as I am aware, found anywhere near here. Considering the nature of the district, mosses, liverworts, and lichens are, nevertheless, very abundant here; and in some situations, such as the wooded hills of the green-sand about Gare Hill, and the rocky bottoms which traverse the mountain limestone near Mells, they attain a luxuriance that I have rarely seen equalled. *Sticta pulmonaria*, in Mells Park, forms great bunches a foot across, growing like mistletoe on the branches, and fruiting profusely. Many species that are rarely fertile may be found so in the stations I have named, *e.g.*, *Neckera crispa* and *pumila*, *Hypnum tamariscinum*, *squarrosum*, *splendens*, *triquetrum*, and *loreum*, and *Parmelia physodes*. Fungi are also very abundant in the woods on the green sand. Club mosses are absent. Ferns are plentiful, the larger kinds being especially so in the woods on the green-sand range of hills. Our stone walls are the favourite habitat of the smaller kinds, *Ceterach officinarum* being in particular extremely abundant. Unfortunately the rarer kinds are in danger of extermination by the selfish greed of fern fanciers—they cannot be called botanists—who root them out by the cartload from their native soil to drag out a brief and miserable existence on some cockneyfied rockery. *Cystopteris fragilis*, for instance, formerly grew in the greatest profusion on a wall at Orchardleigh,

where a single frond is now hardly to be found. *Polypodium Phegopteris* is, I am informed on good authority, new to the county.

If your patience is not exhausted, I will mention a few of the rarer and more interesting flowering plants of the neighbourhood. The monkshood, *Aconitum Napellus*, grows abundantly by the river Frome and its branches at Vallis and elsewhere, but the seeds or roots may have been washed down from some garden by the stream, as it is rarely seen growing where the floods cannot reach. It is said to be native in only 5 out of 112 counties.

Helleborus fœtidus, setterwort, found in 12 counties, grows in hedges at the Row near Laverton, also at Mells and Cole, but has not unlikely escaped from a garden.

Draba muralis grows on a wall at Finger Farm near Mells. It is found on limestone rocks in hilly countries in the north-west of England, Somerset being its southern limit. Being found in only 8 counties, its rarity gives it an interest which would not otherwise attach to so inconspicuous a little flower.

Erodium moschatum, musk cranes-bill.—This has been noticed at intervals during a period of at least 20 years on the wall of an orchard at Beckington. The wall was pulled down in 1870, and since 1871 I have not seen it. I have, however, known it disappear and reappear in past years, so that it may not be lost altogether. It affects limestone rocks on the west coast, and is a doubtful native at Beckington. Its census number is 10.

Impatiens Noli me tangere, wild balsam, or touch-me-not.—A single plant of this was found by the river at Vallis in 1863.

Lathyrus Aphaca, a curious little vetch without leaves, the place of which is supplied by broad leaflike stipules, grows sparingly in a hedge between Woolverton and Norton St. Philip.

Sedum album, white stonecrop, grows on a wall at Vallis and on limestone rocks at Great Elm and Holwell, but its claims to be considered a native are doubtful, as likewise those of its congener, *Sedum dasyphyllum*, which is plentiful at Buckland Dinham.

Trinia vulgaris, honewort.—A single plant of this inconspicuous little umbellifer was found by me on Bradley Knoll in 1868, but I have looked for it there several times since in vain. It grew on the chalk at a height of between 800 and 900 feet above the sea. It is a western plant and very rare, being only found in two other counties.

Polemoneum cæruleum, Jacob's ladder, grows at the side of the stream at Vallis, probably wafted from some garden above.

Verbascum Lychnitis, white mullein, grows on some old walls at Beckington, where it was recorded by Sole in the last century.

Herminium Monarchis, musk orchis. Barrow Hill, near Buckland Dinham. A minute green orchis with a faint smell of musk. It is an eastern plant, and attains in Somerset its extreme western limit. Watson gives it with a query as occurring in Somerset, but having found it there several years, I do not think there can be any doubt about its claim to a place in our flora.

Fritillaria Meleagris, snake's head. I have been informed that at one time this grew abundantly in a field near Norton St. Philip, but that the Bath gardeners, in the days before tender perennials and ribbon borders came into fashion, used to come and dig it up, until at the present time there is only a single plant left, which I hope that those who know of it will spare.

Ornithogalum pyrenaicum, star of Bethlehem. The local abundance of this plant is quite one of the peculiar features in our flora. It is very plentiful about Bath and southwards as far as Road, but at Beckington it begins to get scarcer, and the most southern station that I know for it is at Staplemead near Oldford. It is only found here on the lower oolites. Out of the neighbourhood of Bath it is only known for certain as a native in Bedford and Sussex. It has a long flask-shaped bulb, which sends up in March a tuft of leaves something like those of the bluebell, but of a glaucous hue, folded so as to form a channel on the upper surface, and with the end bent forward, hood-fashion. The leaves grow to a length of nearly

two feet, but are too weak to support themselves, so that they bend down to the ground: they fade before the flowers appear in June. The flowers are of a greenish white hue, like those of the garden star of Bethlehem, *O. umbellatum*, but smaller and arranged in a racemose manner on a slender scape, which grows to the height of 3–4 feet. The young flowering spikes are sometimes boiled and eaten by the poor people under the name of "wild asparagus."

Of the 632 plants I have mentioned, 540 are probably natives, 43 "denizens," *i.e.*, although wild yet found only in the neighbourhood of human dwellings and therefore probably introduced by human agency, *e.g.*, the celandine, *Chelidonium majus*; 39 "colonists," *i.e.*, weeds of cultivated ground which, like the poppies, probably owe both their introduction and perpetuation to agriculture; and 10 are "aliens," and "casuals," *i.e.*, undoubted introductions, or mere chance escapes, such as the "American weed," *Anacharis Alsinastrum*, and the canary grass. The list which I append contains in addition a number of species so notoriously exotic as not to obtain admission into *Cybele Britannica*. There are also a number of segregates, and the rest of the list is made up of cryptogamic species which I have observed in this part of Somerset. It is needless to say that I do not pretend that the list is anything like a complete one, especially as regards the lower algæ and fungi, but as faults of omission are more venial than those of commission, I have endeavoured that it shall contain nothing but what is really found here.

I have not attempted to make a compilation from published lists of Somerset plants, but only to give such as have come under my own observation. For the imperfect way in which I have fulfilled my task my excuse must be that, residing as I now do at a distance, I have, since undertaking this paper, had few opportunities of access either to my herbarium or to the localities themselves.

NOTE.

Dr. Parsons added to his paper an exhaustive list of plants found in the neighbourhood of Frome, and it was at first intended to publish this in the present volume as an appendix. It appeared however to the Committee that lists of local Flora standing alone, although locally interesting, were of but little service generally. It is proposed to compile a list for the whole county, somewhat similar to one formed by Mr. Flower, and published by the Wilts Archæological and Natural History Society. Dr. Parsons has kindly deposited his list with our Society, to be used in carrying out his scheme, and has promised his assistance in the work. The Secretary in charge of the publishing work of the Society will be most thankful if others will offer to take part in a work which seems likely to be of such permanent interest and usefulness to all lovers of the Flora of our county.