

# **THE FLORA OF LIVERPOOL**

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The Flora of Liverpool by Joseph Dickinson

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**JOSEPH DICKINSON**

**THE FLORA  
OF LIVERPOOL**



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# FLORA OF LIVERPOOL.

BY

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## PREFACE.

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HAVING been engaged during the last twelve or thirteen years in collecting materials for the better elucidation of the Botany of the hundred of Wirral, and the neighbourhood of Liverpool, I now lay the result before the members of the Literary and Philosophical Society. In doing so, it is with much pleasure that I acknowledge the deep debt of gratitude I owe to the numerous friends,—many of them members of this Society,—who have so liberally and promptly aided me in the undertaking, both by their advice and their contributions.

My especial thanks are due in the first place to Mr. T. B. Hall, who permitted me unlimitedly to use the valuable stores contained in his *Flora of Liverpool*, published in 1839, and which serves as the basis of the present work; and then to Messrs. Wm. Harrison and Wm. Skelborne of the Liverpool Botanic Garden, without whose assistance this work would probably have been delayed for some time—if not altogether laid aside. To them the list of mosses is almost exclusively due; although very efficient aid has been rendered in this, as in the other departments, by Mr. Thomas Sansom, and by Mr. R. Tudor, of Bootle, whose extensive and accurate acquaintance with the natural history of this locality has been of the greatest service.

Dr. D. P. Thomson has given me the benefit of his superior knowledge of physical geography, and to him I am indebted for much of the information which is given under this head. The names of many other contributors, viz., Messrs. H. Shepherd, Brent, W. Bean, Byerley, Maughan, Dr. Woods, John Harrison, (Miner, St. Helens,) Professor Nuttall, &c., will appear in the course of the paper; and I have endeavoured, in every instance, to assign to its proper source every discovery of a new species or habitat.

#### PREFACE.

During the last twelve years (the period in which I was connected with the Liverpool School of Medicine, as lecturer on botany), a prize was given (and is still continued) each year for the best collection of plants made by the students within a circuit of fifteen miles of Liverpool. This is the limit within which, for the most part, our observations obtain. The collections sent in at these periods were often very valuable and extensive; and highly creditable to the industry and intelligence of the competitors. From this source much information as to the habitats, time of flowering, &c., has been obtained.

The present paper embraces the Flowering Plants, the Ferns and their allies, and the Mosses. The remaining divisions of the Flowerless Plants, viz., the Alga, Lichens, &c., are the objects of careful and persevering investigation by some of the members of this Society; and we may reasonably hope that in the course of another session, a complete list of these will be supplied, as well as a Fauna of the district, for which such ample materials are collected by competent observers.

The arrangement of the Orders, Genera, and Species are, for the most part, the same as in Hooker and Arnott's British Flora, a work which should be in the hands of every practical student of British botany.



ON THE  
PHYSICAL GEOGRAPHY  
OF  
LIVERPOOL AND WIRRAL.

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SINCE the distribution of plants depends greatly upon the physical features, geognostic relations, and climate of the locality, it is deemed expedient to notice briefly these powerful agents as introductory to a description of the Flora of Liverpool and the neighbourhood.

Liverpool is situated in N. lat.  $53^{\circ} 23'$ , W. long.  $2^{\circ} 54'$ , on the right or east side of the estuary of the Mersey, which here separates the hundred of West Derby, in Lancashire, from that of Wirral, in Cheshire. Opposite the town the estuary is navigable for vessels of the heaviest burthen, and is about one mile in breadth; but it widens more considerably as its course extends inland to Runcorn.

The town itself is completely exposed to the north and west, and occupies partly a low range of hills, and partly a small hollow or valley, formerly a marsh pool, which is bounded on the west by the Mersey, on the south by the slightly elevated ground of Toxteth-park, on the east by the broader and higher range of Everton, and on the north by an extensive range of low flat land, not many feet above the level of the sea. Of this tract the borough of Liverpool includes within its area  $5002\frac{1}{4}$  statute acres. The country around is flat and somewhat undulating, bearing in that respect a close resemblance to those districts which yield supplies of coal: nevertheless,

ON THE PHYSICAL GEOGRAPHY OF

Liverpool does not stand *upon* the coal measures. These last, however, come to the surface, and crop out at about seven or eight miles eastward of the town, near Prescott; and at about the same distance westward, near Parkgate. Thus it is reasonably supposed that the new red sand-stone of Liverpool, and of the hundred of Wirral, rests upon, and fills up a large basin formed by the coal measures. Above that most important system rests the Pœcilitic group (meaning variegated), to which the rocks under, and around the town belong. But of this group several members are wanting, the most important of which is the Permian of Murchison; a system which formed, so to speak, in the extinction of living organisms, the transition period between the palæozoic and secondary epochs. We find, however, variegated marl, and the triassic system or new red sandstone. This is the upper group of the Pœcilitic system, embracing the "Marnes irisées" and "Gres bigarré" of the French, and "Keuper" and "Bunter sandstein" of the Germans. The Muschelkalk, so abundant on the continent between the Keuper and Bunder sandstein, is entirely wanting. Above it, in geological series, though not met with here, rests the Lias.

The new red sandstone of Liverpool consists of various strata of friable sand, marl, clay, sandstone, micaceous slaty clay, and quartzose sandstone; these strata, of different thicknesses, being all regularly stratified with each other: their prevailing hue is red, though they pass through a variety of colours—from almost pure white to chocolate; they are also found yellow, blueish, green, and brown—these being often curiously intermixed, and supplying to this form of the new red sandstone the appropriate name of *variegated sandstone*. Inferior to, and outlying this new red sandstone formation, we find the coal measures, which must have been subjected to considerable disturbances anterior to the deposition of the triassic system, since the sandstone strata are unconformable with the carboniferous system. The formation of the new red

#### LIVERPOOL AND WIRRAL.

sandstone has doubtless arisen from the disintegration of older rocks and deposition of this alluvium in fitting localities. Though in many places local detrition may have produced the rocks in question, there is no doubt that much is due to northern drift. Large granitic boulders, characteristic of this drift, are found to the north-east of Liverpool, and probably the oxide of iron, which gives colour to the new red sandstone, has resulted from the decomposition of metamorphic rocks, of which these are remnants.\*

"The sandstone, in its mineralogical character, is evidently of mechanical origin, having been a sedimentary deposition in water, under various degrees of disturbance, and consists entirely of the comminuted ingredients of older rocks. In some beds its texture consists of fine grains of quartz, cemented together by an argillaceous red oxide of iron; in others it occurs in grains of pure silex, the facets of which present a resplendent appearance on exposure to the sun. Many beds irregularly abound in nodules of indurated clay, together with a multitude of small pebbles of quartz, felspar, old red sandstone, greywacké, basalt, and granite, being portions of older rocks disintegrated by the constant attrition of water. In other beds the new red sandstone appears as a coarse quartzose conglomerate, with an argillaceous cement, containing an abundance of small nodules of a yellowish brown clay. The greater portions of these beds have disseminated particles of mica, which in some instances give the sandstone a slaty texture."

Subsequent to this formation of the new red sandstone, (with its three subdivisions or beds, namely, the Lower Red, Central Yellow or White, and the Upper Red, the whole amounting to a very considerable thickness), powerful forces

\* On both sides of the Mersey that peculiar semi-metallic substance, *Isereuse*, is met with, presenting itself as a black powder in a wave-like form on the surface of the loose sand, and being accompanied by grains of iron is highly attractable by the magnet.