## **NOTES**

ON

# **SUTTON PARK:**

# ITS FLOWERING PLANTS, FERNS, AND MOSSES;

READ AT A GENERAL MEETING OF THE BIRMINGHAM NATURAL HISTORY AND MICROSCOPICAL SOCIETY, HELD DECEMBER 6TH, 1876.

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UPDATED BY PETER COXHEAD

#### Introduction

The flora of Sutton Park is relatively well-documented, at least during the last 120 years or so. The first Flora was produced by James E. Bagnall in 1876, in the form of a printed address to the Birmingham Natural History and Microscopical Society, which listed vascular plants and mosses. About 100 years later, in 1971, R. C. Readett used data partly collected for the larger computer-mapped Flora of Warwickshire to publish a flora of Sutton Park in the Proceedings of the Birmingham Natural History Society; it included a section on the bryophytes by T. Laflin. More recently, Harold H. Fowkes and Peter Coxhead have updated Readett as part of a planned *Natural History of Sutton Park*, Part 1 of which lists the vascular plants. (Part 2 will include the bryophytes.)

Bagnall's Flora is relatively unaccessible now; partly because copies are hard to come by, and partly because the nomenclature he used is considerably out of date, particularly for the mosses. While working on the *Natural History of Sutton Park*, I frequently needed to refer to Bagnall, and found it useful to compile a computerized database of the species he listed, for cross-reference purposes. It was but a short step to add his introduction and tidy up the lists to produce this updated version.

I have retained as much of the original as possible, correcting only the obvious spelling mistakes, and adapting some of the punctuation and style to modern usage (e.g. italicising specific names). Insertions and comments by me are included in brackets, thus: [...]. Where Bagnall's name is out of date, it has been replaced by the current name, and his original given in braces, thus: {...}.

Peter Coxhead 1991

<sup>&</sup>lt;sup>1</sup>Bagnall, J.E., "Notes on Sutton Park: Its Flowering Plants, Ferns, and Mosses", read at a general meeting of the Birmingham Natural History and Microscopical Society, held December 6th, 1876.

<sup>&</sup>lt;sup>2</sup>Readett, R.C., "A Flora of Sutton Park", *Proceedings of the Birmingham Natural History Society* **22**, pp. 1-88, 1971; also published as a separate reprint.

<sup>&</sup>lt;sup>3</sup>Fowkes, H.H. & Coxhead, P., A Natural History of Sutton Park – Part 1: The Vascular Plants, published by the Sutton Coldfield Natural History Society, 1991.

## NOTES ON SUTTON PARK AND ITS FLORA

#### BY JAMES E. BAGNALL

Read at the General Meeting held December 5th, 1876

"To him who in the love of Nature, holds
Communion with her visible forms, she speaks
A various language. For his gayer hours
She has a voice of gladness, and a smile
And eloquence of beauty; and she glides
Into his darker musings with a mild
And gentle sympathy, that steals away
Their sharpness ere he is aware."—Bryant.

THOSE who are unacquainted with Sutton Park, but who desire to form some opinion of its wild beauties, I would advise, instead of going in at the principal entrance, to walk through the royal town of Sutton to Four Oaks, and entering in by what is called the Milking Gate, walk on to the brow of the rising ground, some quarter of a mile straight ahead, and look well at the wild scene that lies stretched out on every hand. If you stand with your back towards Four Oaks you will have on your left hand Pool Hollies Wood, "where the thick roof of green and stirring branches is alive and musical with birds"; a little further on that chain of small woods known as Darnel and Upper and Lower Nut Hursts; lying between Darnel Hurst and Pool Hollies is that fine weed-grown lake, Bracebridge Pool, a pool famous for its fine pike, and of interest to botanists as yielding some of our rarest plants. On the right hand lies the small open wood near Streetly Hill, and the beautiful weird-like pine woods of Little Aston Park; and stretching right away before you lies the gorsey heath land, looking as wild as wild Nature can look, bounded on its outer border by that little fringe-like wood, Westwood Coppice, near to which lies the grassgrown Roman road, Icknield Street, along which perchance many a Roman legion has marched in the days long gone by. Beyond this, and outside the Park boundaries, the country rises on every side, so that the scene is bounded by tree-girt hills, notable among which is the Barr Beacon Hill, and looking at this wild and beautiful scene, we might well exclaim, here nature reigns supreme! were it not that in that marshy valley just below us, we see an ugly ridge of sand and

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gravel, with here and there an unsightly looking blue brick bridge, which too forcibly reminds us that our grand old park has been invaded by that innovator on natural scenery, the railway. Were it not for this reminder of modern enterprise, we might in our fancy repeople it with some of its former inhabitants; might fancy a wild heath land stretching out right away to Cannock Chase, covered with ling, heather, gorse, cranberry, bilberry, crowberry, and the now rare red whortleberry, among which the wild boar and the wolf wandered at will, where herds of wild deer browsed its thyme-grown pastures, and the water-fowls, the grouse, the hare, and other creatures of the wilds found a shelter and a home. But even now, spite of that ugly ridge of sand and gravel, we may look with delight on the beautiful scene, and congratulate ourselves upon having so near our large and smoky town of Birmingham the wildest and most beautiful spot in the Midlands. This beautiful place is so well known to you all, as to render any attempt at a description of its physical features a work of supererogation. It is, as you know, a large enclosure, containing some 3,500 acres, is about two and a half miles long, by two miles wide; is delightfully undulating, and well watered; all the habitats suitable to the naturalist may be found here, pasture lands, with their beautiful green sward; heath lands, as wild as untrained nature can make them; woods, though small, and not perhaps abounding in botanical treasures, nevertheless, rejoicing in sylvan shades and charming vistas; beautiful clear streams, where the dark olive masses of Batrachospermum, or the paler green tufts of Chætophora or Drapnaldia may be seen clinging to the pebbles below; lake-like pools, with their adjacent marshes and bogs, abounding in microscopical and other botanical treasures. Here the naturalist of every sort may roam at will, and indulge in his or her own special study to their heart's content; but, above all, the botanist will find this the place par excellence.

To endeavour to give you a slight sketch of what may be found here is my duty to-night, but the sketch will only be a slight one, and I shall therefore only call your attention to some of the rarer and most interesting plants I have found there from time to time. For my specimens, I must apologise, they are after all only plant mummies, their colour and graceful shape has been crushed out, the beautiful perfume which they offered up as sweet incense to their Maker, the balmy air and other sweet surroundings of their living state have passed away, so that they will convey to you no tithe of an idea of their real beauty, but, if you wish to see them in all their fair freshness, go and hunt them there yourselves. You will find it a most pleasant pastime, and though you may not be able to spot all that is rare, you will find much that is interesting, you will breathe the invigorating air

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of the heath lands, and if you do not learn to love nature better for your visits to this place, it will be because you have no soul for beauty and no claim to be called a Naturalist.

The past records from Sutton Park are remarkable for their scantiness. Purton in his Midland Flora only rarely mentions this place, whilst Perry in his *Planta Varvicences Selecta* or *Botanists' Guide to the County of Warwick* only records nine plants from Sutton Coldfield, and yet this place has been visited by Ray I am convinced, as he records *Atropa belladonna* from Sutton Coldfield, a most unlikely plant to be found here by-the-by. Withering and Bree must have paid visits to this place and must have gathered many a charming specimen here, but I have seen no notes from either of these great Botanists.

Now finding so little recorded, I thought it would be well to work it myself, and now after many a happy day's botanising there I can say with confidence, that no district in Warwickshire would surpass it for prolificness in rare, interesting and beautiful plants, and I believe that by thus concentrating a considerable portion of my leisure time on Sutton Park I have materially increased my knowledge of plants, and have added more richly to my herbarium than I should have done had I run from place to place in search of good habitats, and I should therefore advise my young botanical friends to work well limited districts rather than follow the fashion of too many of our collectors in scouring the country in search of rarities; a limited district well worked will often yield rare plants little expected.

In the following list I have not attempted to decide which trees may be considered as truly wild and which may be looked upon as planted. In a place like Sutton, where the woods bear so many evidences of having been planted, it would be impossible to decide this matter, but in those plants such as herbaceous plants, where I have a satisfactory reason for thinking that they have been introduced, such as *Corydalis claviculata*, *Geranium phaeum*, *Melilotus officinalis* {*M. arvensis*}<sup>4</sup>, and even *Primula vulgaris*, &c., I have used the dagger sign (†) thus. The term *Colonist* I use in the sense adopted by Mr. Hewett C. Watson in his *Cybele*, and in the *Compendium of the Cybele*, i.e., those plants which are weeds of cultivated ground, or have been introduced by the agency of the new soil brought (in many cases from cultivated fields), to form the new railway embankment, the terms *Casual* and *Alien* are also borrowed from the above work, and indicate plants undoubtedly introduced and plants probably of foreign origin;

<sup>&</sup>lt;sup>4</sup>Throughout, where Bagnall's name differs from that currently used, the current name has been inserted and his original is given in braces, thus: {...}.

but all these remarks together with such notes as common, frequent, rare, &c., only apply to Sutton Park.

It may seem strange that I should doubt that such plants as Centaurium erythraea {Erythraea centaurium} and Primula vulgaris, are native in Sutton Park, but any one who notices the nature of the soil in the habitats where these plants occur, and also notices the very sickly unnatural look of the plants, together with the fact that neither plants are at all abundant and are missing in the district for a wide interval, will, I think, allow my doubts to be well grounded. Another plant too, I may mention, which occurs in this list, is a plant which could only be introduced by human agency, i.e. Chara syncarpa, which occurs in one locality, or did occur there in 1876, but was not there a few years ago; this I know from the fact of having made a very searching investigation of the habitat in which it occurs when looking for Chara foetida and other aquatics, and I must say that to me it does seem wrong for anyone to introduce any plant into either Sutton Park or any other new Warwickshire locality, without registering that fact either on the Minute Book of the Birmingham Natural History Society, or in some scientific Journal; had I chosen to do so, I might have very much increased the flora of Sutton by this means, but it is not my intention ever to indulge in so unscientific a habit.

The classification, nomenclature, and numbers are those of the London Catalogue of British Plants, 7th Edition. I have localised all but the very rarest and very commonest plants in the following list; with the common species this was unnecessary; with the rarer ones it would only lead to extermination. Sutton Park is a limited area, and if there is any plant on this list worth having, it is at any rate worth seeking. I may also state that all the plants here enumerated have been found by me at various times (with about three exceptions), and that all the rarer ones have been confirmed during the present year, 1876.

#### THE FLORA OF SUTTON PARK<sup>5</sup>

Equisetum fluviatile  $\{E. limosum\}$  (1663)<sup>6</sup> Local Pools. [Includes Bagnall's var. fluviatile.] [RP]<sup>7</sup>

Equisetum arvense (1658) Frequent. Heath lands, &c. [RP]

Equisetum palustre (1662) Frequent. Marshes. [RP]

Botrychium lunaria (1647) Near Mill Pool, 1869. [RL]

Osmunda regalis (1644) Destroyed. Old stumps above Bracebridge, 1868. [-L]

Polypodium vulgare s.l. (1638) Very rare here. [-P]

Pteridium aquilinum {Pteris aquilina} (1606) Common. Heath lands and woods. [RP]

Thelypteris palustris {Nephrodium thelypteris} (1636) Rare. Only Warwickshire station. [-L]

Oreopteris limbosperma { Nephrodium oreopteris} (1636) Local. Nearly eradicated by growers. [RP]

Athyrium filix-femina (1617) Three forms occur here. Not rare. [RP]

Polystichum aculeatum {Aspidium aculeatum var. lobatum} (1627) Rare. Near Milking gate. [-L]

Dryopteris filix-mas agg. {Nephrodium filix-mas} (1629) Abundant, but local; one or two forms. [RP]

Dryopteris carthusiana {Nephrodium spinulosum} (1633) Local in woods and wood borders. [RP]

Dryopteris dilatata {Nephrodium dilatatum} (1634) Frequent. Woods and marshes. [RP]

Blechnum spicant {Lomaria spicant} (1608) Rare now. Most localities destroyed, 1876. [RP]

Pilularia globulifera (1657) Local. Bracebridge Pool. [-L]

Pinus sylvestris (1199) † Frequent. [RP]

Caltha palustris (36) Frequent. Marshes. [RP]

{var. guerangerii} Local. Keeper's and Blackroot pools.

{var. minor?} Rare, above Blackroot pool.

Anemone nemorosa (8) Local. Above Blackroot, in marshes, &c. [RP]

Ranunculus acris (28) Occasional. Banks, &c. [RP]

Ranunculus repens (29) Occasional. Banks, &c. [RP]

Ranunculus bulbosus (30) Grass lands, near entrance, not common. [RP]

Ranunculus arvensis (34) Occasional. Colonist. Fields by Powell's Pool. [-L]

Ranunculus lingua (26) Local. Windley, Blackroot, Bracebridge Pools. [RP]

Ranunculus flammula (24) Frequent. [RP]

<sup>&</sup>lt;sup>5</sup>Names and order generally follow Clapham, A.R., Tutin, T.G. & Moore, D.M., *Flora of the British Isles*, first paperback edition (with corrections), Cambridge University Press, 1989. Where Bagnall's name differs from that currently used, the current name has been inserted and his original is given in braces, thus: {...}. Vars. listed by Bagnall are frequently not recognized now, but have been included for completeness.

<sup>&</sup>lt;sup>6</sup>Bagnall's list was in London Catalogue Number (LCN) order; the LCN number is given here to facilitate reference to the original.

<sup>&</sup>lt;sup>7</sup>The first letter of the code indicates whether the species was listed as present by Readett (1971): 'R' means yes, '-' no. The second letter of the code indicates whether the species is believed to be present now: 'P' present, '?' possible, 'L' lost, 'D' doubtful record. See Fowkes & Coxhead (1991).

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Ranunculus sceleratus (22) Local. Keeper's and Powell's Pools. [RP]
Ranunculus hederaceus (21) Local. Pools and streams. [RP]
Ranunculus omiophyllus {R. lenormandii} (20) Frequent. All the pools and
          streams. [RP]
Ranunculus aquatilis {R. diversifolius var. radians} (15) Local. Near Windley
          Pool. [-L]
Ranunculus peltatus (14) [RP]
          {var. floribundus} Frequent. Pools and streams.
          {var. truncatus} Stream near Rowton's Well, &c.
Ranunculus circinatus (12) Local. Stream from Blackroot Pool. [-L]
Ranunculus ficaria (35) Frequent. Marshes, &c. [RP]
Nymphaea alba (47) Blackroot Pool, 1868, now exterminated. [RP]
Papaver rhoeas Colonist. Railway bank, rare. [Suppl.]<sup>8</sup> [RP]
Papaver dubium (52) Local. Colonist. On shed, base of Blackroot. [RP]
Papaver argemone (53) Local. Colonist. Fields near Blackroot Pool. [-L]
Corydalis claviculata (59) † Rare. Holly Hurst, Halkin's Garden. [-L]
Fumaria officinalis (64) Local. Fields by Powell's Pool, &c. [RP]
Brassica napus {B. rutabuga} Casual. Railway bank, abundant. [Suppl.] [RP]
Sinapis arvensis (71) Fields in the Park, not common. [RP]
Capsella bursa-pastoris (134) Frequent. [RP]
Berteroa incana {Alyssum incanum} Casual. Railway bank, rare. [Suppl.] [-L]
Erophila verna {Draba verna} (118) Local, by Hartopp's Park wall abundant.
          [-L]
Cardamine pratensis s.l. (94) Frequent. Marshy places, &c. [RP]
Cardamine amara (93) Local. Marsh above Blackroot, Windley Pool. [-L]
Cardamine flexuosa {C. sylvatica} (96) Local. Windley Pool, stream near
          Wiggin's Cottage. [RP]
Cardamine hirsuta (95) Frequent. [RP]
Barbarea vulgaris (105) Rare. Near Windley Pool, and near entrance. [-L]
Rorippa islandica {Nasturtium palustre} (112) Rare. A few plants by Windley
          Pool, 1869. [-L]
Nasturtium officinale agg. (110) Frequent. Streams, &c. [RP]
Alliaria petiolata {Sysimbrium alliaria} (86) Banks, occasionally. [RP]
Sisymbrium officinale (83) Banks, &c., not common. [RP]
Arabidopsis thaliana {Arabis thaliana} (98) Occasional. By Hartopp's Park
          wall, &c. [RP]
Camelina sativa Casual. Railway bank, rare. [Suppl.] [-L]
Viola odorata (152) † A few plants. Hedge bank by Wiggin's Cottage, 1868.
Viola riviniana {V. sylvatica var. riviniana} (155) Frequent. Heaths, &c. [RP]
Viola canina {V. canina var. flavcornis} (157) Rare. Above Bracebridge. [-L]
Viola palustris ssp. palustris {V. palustris} (151) Frequent. Marshes and bogs.
          [RP]
Viola tricolor (160) Rare. Colonist. Railway cutting above Blackroot. [-L]
Viola arvensis {V. tricolor var. arvensis} (160) Local. Colonist. Garden by
          Mill Pool, Railway—Blackroot. [RP]
Polygala vulgaris (166) Local. Hartopp's Park wall, above Bracebridge. [RP]
Polygala serpyllifolia {P. depressa} (167) Frequent. Heath lands, Blackroot,
          &c. [RP]
          {forma flora alba} Local. Heath lands, Blackroot, and Powell's Pools.
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<sup>8</sup>Indicates that the species was originally listed in the supplement (see page 21), but here has been included in the main list.

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Hypericum perforatum (250) Occas[ional]. Hedge banks, near Hartopp's Park.
          [RP]
Hypericum maculatum {H. dubium var. maculatum} (251) Local. Windley
          Pool Coppice. [RP]
Hypericum tetrapterum (252) Local marshes, &c. [RP]
Hypericum humifusum (254) Local. By Hartopp's Park wall. [-L]
Hypericum pulchrum (256) Heath lands. [-L]
Silene dioica {Lychnis diurna} (189) Occasionally. Banks. [RP]
Silene latifolia ssp. alba {Lychnis vespertina} (188) Occasionally. Banks. [RP]
Silene vulgaris ssp. vulgaris {S. inflata} (178) Rare. A few plants near prin-
          cipal entrance, 1876. [Main list] Colonist. Railway bank, occasional.
          [Suppl.] [RP]
Silene gallica {S. anglica} Colonist. Railway bank, frequent. [Suppl.] [-L]
Silene cretica {S. annulata} (S06) Casual. Railway bank, rare. [Suppl.] [-L]
Lychnis flos-cuculi (190) Local. Marshes. [RP]
Agrostemma githago {Lychnis githago} Colonist. Railway bank, rare. [Suppl.]
          [-L]
Vaccaria hispanica {Saponaria vaccaria} Casual. Railway bank, rare. [Suppl.]
          [-L]
Cerastium fontanum ssp. triviale {C. triviale} (200) Frequent. [RP]
Cerastium glomeratum (199) Occasionally. By Hartopp's Park wall. [RP]
Myosoton aquaticum {Stellaria aquatica} (205) A few plants by Windley Pool
          entrance, 1874. [-L]
Stellaria media (207) Frequent. [RP]
Stellaria holostea (208) Frequent. [RP]
Stellaria graminea (210) Frequent. [RP]
Stellaria alsine {S. uliginosa} (211) Streams, &c. Frequent. [RP]
Moenchia erecta (195) Rare. Windley and Mill Pools. [-L]
Sagina apetala
     ssp. erecta {S. apetala} (223) Local. By Hartopp's Park wall. [RP]
     ssp. apetala {S. ciliata} Colonist. Railway bank, rare. [Suppl.]
Sagina procumbens (225) Frequent. Heathy places, &c. [RP]
Sagina nodosa (229) Local. Keeper's, Windley, and Bracebridge Pools. [RP]
Moehringia trinervia {Arenaria trinervis} (212) Occasionally. By Hartopp's
          Park wall. [-L]
Arenaria serpyllifolia
     ssp. serpyllifolia {Arenaria serpyllifolia} (213) Occasionally. Railway
          cutting above Blackroot. [RP]
     ssp. leptoclados {Arenaria leptoclados} Local. Bank, north end of Park.
          [Suppl.] [RP]
Spergula arvensis (230) Local. Colonist. Near Hartopp's Park. [RP]
Spergularia rubra (231) Local. Abundant on burnt heath lands, &c. [RP]
Scleranthus annuus (240) Local. Colonist. Railway cutting, abundant, 1876.
          [RP]
Montia fontana (242) Frequent in marsh places. [RP]
          {var. rivularis} Abundant above Bracebridge Pool.
Chenopodium album (1075) Occas[ional]. Railway Embankment. Colonist.
          [Includes Bagnall's vars. candicans, viride and paganum.] [RP]
Atriplex patula {A. angustifolia} (1085) Occas[ional]. Colonist. Railway
          Embankment. [RP]
Atriplex prostrata {A. deltoidea} Colonist. Railway bank, rare. [Suppl.] [-L]
Linum usitatissimum Casual. Railway banks, rare. [Suppl.] [-L]
Linum catharticum (269) Local. Abundant, by Hartopp's Park wall. [-L]
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Geranium phaeum (274) † Pool Hollies Wood, 1869, introduced. [-L]

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Geranium columbinum Rare. Bank, north end of Park. [Suppl.] [-L]
Geranium dissectum (281) Colonist, near Hartopp's Park. [-L]
Geranium molle (278) Colonist, near Hartopp's Park. [RP]
Geranium robertianum (284) Occas[ional]. Banks, &c. [RP]
Erodium cicutarium ssp. cicutarium {E. cicutarium} (285) Local. Near en-
          trance, by Hartopp's Park. [RP]
Oxalis acetosella (288) Frequent. Damp and marshy places. [RP]
Acer pseudoplatanus (298) *9 Local. Near Hartopp's Park, planted. [RP]
Ilex aquifolium (294) Frequent. Woods, &c. [RP]
Frangula alnus {Rhamnus frangula} (297) Frequent. Woods and heaths. [RP]
Cytisus scoparius {Sarothamnus scoparius} (306) Abundant. Heath lands. [RP]
Genista anglica (303) Old Chester Road, near Park paling, 1875. [Main list]
          Rare. Heath land, near Bracebridge Pool. [-L] [Suppl.]
Ulex europaeus (300) Abundant. Heath lands. [RP]
Ulex gallii (301) Abundant. Heath lands. [RP]
Vicia hirsuta (356) Local. Colonist. Railway cutting, near Blackroot. [-L]
Vicia cracca (359) Frequent. Hedges. [RP]
Vicia sepium (362) Occasionally. Ll
Lathyrus pratensis (371) Occasionally. [RP]
Ononis repens {O. arvensis} (308) Rare. By Powell's Pool. [RP]
Melilotus officinalis {M. arvensis} (320) * Rare. Casual. Railway cutting,
          Blackroot. [-L]
Melilotus alba (319) † Escape. Four Oaks end of Park. [–L]
Medicago lupulina (314) Occasionally. By Hartopp's Park. [–P]
Trifolium repens (337) Frequent. Heaths. [RP]
Trifolium hybridum (336) * Rare. Casual. Railway cutting. [RP]
Trifolium aureum {T. agrarium} (339.01) * Casual. Railway cutting, 1876.
          [-L]
Trifolium campestre {T. procumbens} (339) Colonist. Railway cutting. [RP]
Trifolium dubium {T. minus} (340) Frequent. Heath lands. [RP]
Trifolium pratense (323) Fields by Powell's Pool, by Hartopp's Park. [RP]
Trifolium medium (323) Local. Pool Hollies Wood. [RP]
Lotus corniculatus (342) Frequent. Pastures and heath lands. [RP]
Lotus uliginosus {L. major} (344) Frequent. Marshy places. [RP]
Ornithopus perpusillus (352) Local. Old race course, etc. [-L]
Filipendula ulmaria {Spiraea ulmaria} (385) Frequent. Damp places, &c. [RP]
Rubus idaeus (410) Local. Near Mill Pool. Blackroot and Bracebridge. [RP]
Rubus fruticosus s.l. [About 30 taxa are listed by Bagnall.] [RP]
Potentilla palustris {Comarum palustre} (407) Abundant. Marshes and bogs.
          [RP]
Potentilla sterilis {P. fragariastrum} (397) Banks. Frequent. [-L]
Potentilla erecta {P. tormentilla} (400) Heath lands. Abundant. [RP]
Potentilla reptans (402) Local. Borders of Westwood Coppice, &c. [RP]
Geum urbanum (454) Banks, &c. Frequent. [-L]
Alchemilla filicaulis ssp. vestita {A. vulgaris} (393) Below Keeper's Pool,
          1869. Not seen since. [RP]
Aphanes arvensis s.l. {Alchemilla arvensis} (392) Heath lands. Frequent. [-L]
Sanguisorba officinalis (389) † Rare, Colonist. Westwood Coppice, 1875. [-L]
Rosa arvensis (470) Local. Heath lands. [RP]
Rosa canina s.l. (468) [Bagnall lists 6 vars. mostly described as occurring in
          "Heath lands and hedges." [RP]
Rosa tomentosa (464) Heath land, near Wiggin's Cottage. Four Oaks, &c. [-L]
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<sup>9</sup>The significance of the asterisks is not explained in the original; it may indicate aliens.

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Prunus spinosa (378) Frequent. Hedges. [RP]
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Crataegus monogyna (473) Frequent. [RP]

Sorbus aucuparia {Pyrus aucuparia} (480) Frequent in Woods. [RP]

Sorbus aria {Pyrus aria} (475) † Local. Near Bracebridge and Blackroot Pools. [RP]

Malus sylvestris {Pyrus malus var. acerba} (482) Frequent. Woods and heath lands. [RP]

Chrysosplenium oppositifolium (549) Local. Pool Hollies. Blackroot, Bracebridge Pools. [RP]

Chrysosplenium alternifolium (550) Rare. Above Blackroot and near Mill Pools. [-L]

Parnassia palustris (551) Rare. Mill, Bracebridge, Blackroot Pools, &c. [RP] Ribes uva-crispa {R. grossularia} (514) † Alien. A single plant in hedge near Wiggin's Cottage. [RP]

Drosera rotundifolia (163) Local. Bracebridge, Mill, Blackroot Pools, &c. [RP] Lythrum salicaria (483) Local. Windley Pool Coppice. [RP]

Lythrum portula {Peplis portula} (485) Local. Plentiful at Bracebridge Pool. [-L]

Epilobium hirsutum (487) Abundant. Marshes, &c. Blackroot. [RP]

Epilobium parviflorum (488) Occasionally. Pools, Keeper's, Bracebridge. [RP] Epilobium montanum (489) Frequent. Banks. [RP]

Epilobium tetragonum (492) Rare. Bracebridge, 1869. [RP]

Epilobium obscurum (493) Local. Pools, Keeper's, Bracebridge, &c. [RP]

Epilobium palustre (494) Pools and ditches. Keeper's. Windley. [RP]

Chamaenerion angustifolium {Epilobium angustifolium} Casual. Railway banks. W.B. Groves. [Suppl.] [RP]

Myriophyllum spicatum (504) Streams and pools. Local. Keeper's, Blackroot. [RP]

Myriophyllum alterniflorum (505) Rare. Keeper's Pool. Rev. J. Caswell. [R?] Callitriche stagnalis (probably) {C. verna} (507) Streams. Mill Pool. Blackroot, &c. [RP]

Callitriche platycarpa (509) Streams. Mill Pool. Blackroot, &c. [RP] Callitriche hamulata (510) [Placed at the end of Bagnall's list with no notes.]

Hedera helix (614) Frequent. Woods, &c. [RP]

Hydrocotyle vulgaris (552) Frequent, in all the bogs and marshes. [RP]

Sanicula europaea (554) Rare (remains). A few plants in Pool Hollies, 1869. [RP]

Chaerophyllum temulentum (607) Frequent. Banks, &c. [RP]

Anthriscus sylvestris {Chaerophyllum sylvestre} (606) Frequent. Banks, &c. [RP]

Scandix pecten-veneris (609) Occasional. Colonist. Meadows near Powell's Pool. [-L]

Conopodium majus {Bunium flexuosum} (569) Frequent, Woods, &c. [RP]

Pimpinella saxifraga (570) Rare. Near Powell's Pool, in Park. [–P]

Aegopodium podagraria (565) † Casual. Near entrance. [RP]

Berula erecta {Sium angustifolium} (573) Frequent Pools, Streams, and ditches. [RP]

Aethusa cynapium (585) Colonist. Local. Railway Cutting, &c. [RP]

Apium nodiflorum {Helosciadium nodiflorum} (559) Frequent. Ditches and streams. Windley Pool. [RP]

{var. psuedo-repens} Local. Streams by Keeper's and Blackroot Pools.

Apium inundatum {Helosciadium inundatum} (560) Rare. Bracebridge Pool. [-L]

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Angelica sylvestris (592) Frequent. Bogs and marshes. [RP]
Heracleum sphondylium (597) Frequent. Banks and heath lands. [RP]
Torilis japonica {T. anthriscus} (602) Occasionally. Banks, &c. [RP]
Daucus carota (599) Occasionally, Heath lands, Bracebridge. [RP]
Bryonia cretica ssp. dioica {B. dioica} (513) Occas[ional]. Hedges, near en-
          trance, near Four Oaks. [RP]
Mercurialis perennis (1146) Frequent. [-L]
Euphorbia helioscopia (1134) Local. Casual. Railway embankment. [RP]
Euphorbia peplus (1143) Local. Casual. Railway embankment. [RP]
Polygonum aviculare s.s. {P. aviculare var. aggrestinum} (1113) Frequent.
          [RP]
Polygonum arenastrum {P. aviculare var. arenastrum} (1113) Sandy places.
          Local. [RP]
Polygonum amphibium (1122) Local. Pools. [RP]
Polygonum persicaria (1119) Frequent. [RP]
Polygonum lapathifolium (1120) Frequent, but probably a colonist. [RP]
          \{P. maculatum\} [P. maculatum = P. nodosum \approx P. lapathifolium]
          Railway bank. Local. [Suppl.] [RP]
Polygonum hydropiper (1116) Frequent. Streams and ditches. [RP]
Fallopia convolvulus {Polygonum convolvulus} (1111) Pathways, woods, &c.
          [RP]
Fagopyrum esculentum {Polygonum fagopyrum} Casual. Railway bank, not
          rare. [Suppl.] [-L]
Rumex acetosella s.s. (1108) Heath lands, Common. [RP]
Rumex acetosa (1107) Banks, &c. Frequent. [RP]
Rumex crispus (1102) Not infrequent. [RP]
Rumex obtusifolius {R. obtusifolius var. freisii} (1099) Abundant above
          Bracebridge, &c. [RP]
Rumex sanguineus {R. nemorosus var. viridis} (1095) Rare. Pool Hollies. [RP]
Rumex conglomeratus (1094) Abundant above Blackroot and Bracebridge.
          [RP]
Urtica urens (1152) Occas[ional]. Casual on Railway Embankment. [RP]
Urtica dioica (1150) Frequent. [RP]
Humulus lupulus (1153) † Rare, near entrance by Windley Pool. [RP]
Cannabis sativa Casual. Railway bank. Local. [Suppl.] [-L]
Ulmus glabra {U. montana} (1155) Rare, near Bracebridge Pool. [RP]
Ulmus minor {U. suberosa} (1154) Local. Above Blackroot, Gum Slade. [-L]
Betula pendula and B. pubescens {B. alba} (1162) Occasionally. [This seems a
          very surprising comment; it may be worth noting that the original
          consists of a " mark below a more appropriate "Occasionally".] [RP]
Alnus glutinosa (1161) Occasionally. Blackroot Pool, &c. [RP]
Carpinus betulus (1160) † Rare. Two trees, Hartopp's Park, close to wall. [RP]
Corylus avellana (1159) Frequent. Woods. [RP]
Fagus sylvatica (1158) Local. Gum Slade. [RP]
Castanea sativa {C. vulgaris} (1157) * Westwood Coppice. Planted. [RP]
Quercus robur {Q. robur var. pendunculata} (1156) Common. [RP]
Populus tremula (1167) Rare. Near Wigan's [=Wiggin's?] Grounds. [RP]
Salix pentandra (1169) Pool Hollies Wood. [–P]
Salix fragilis (1170) Occasionally. [RP]
          var. russelliana {S. russelliana} (1171) Occasionally. [-?]
Salix viminalis (1178) Occasionally. [RP]
Salix caprea (1185) Occasionally. [RP]
Salix cinerea ssp. oleifolia {S. cinerea} (1183) Occasionally. [RP]
Salix aurita (1184) Heath lands. Frequent. [RP]
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Salix repens var. repens {S. repens} (1190) Occasionally. [RP]

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Vaccinium vitis-idaea (825) Rare. Bogs above Blackroot and Bracebridge. [RP]
Vaccinium myrtillus (827) Frequent. Heaths and woods. [RP]
Vaccinium oxycoccos (824) Rare. Bogs above Blackroot and Bracebridge. [RP]
Calluna vulgaris (840) Frequent. Heath lands. [Includes Bagnall's var. incana.]
          [RP]
Erica tetralix (836) Frequent. Heath lands. [RP]
Erica cinerea (837) Frequent. Heath lands. [RP]
Empetrum nigrum (1131) Local. Heath lands above Bracebridge. [RP]
Primula vulgaris (1037) † Rare. Pool Hollies. Appears to be introduced. [–P]
Lysimachia nemorum (1048) Local. Marshes above Blackroot, &c. [RP]
Anagallis tenella (1051) Frequent, near streams and in marshes. [RP]
Anagallis arvensis (1049) Occasionally. Heath lands, near Hartopp's Park.
Fraxinus excelsior (847) * Gum Slade, &c. [RP]
Ligustrum vulgare Rare. Near Bracebridge Pool. [Suppl.] [RP]
Centaurium erythraea {Erythraea centaurium} (853) Westwood Coppice. Rev.
          J. Caswell, casual. [-L]
Menyanthes trifoliata (863) Local, but abundant in several bogs and marshes.
          [RP]
Pentaglottis sempervirens {Anchusa sempervirens} (1021) Rare. Casual. Four
          Oaks, near Milking Gate. [RP]
Anchusa arvensis (1019) Rare. Heath land, near Blackroot. [-L]
Myosotis scorpioides {M. palustris} (1012) More rare [than M. laxa ssp.
          caespitosa]. Streams and pools, &c. [RP]
Myosotis secunda {M. repens} (1013) Local. Mill, Powell's, Blackroot Pools,
          &c. [RP]
Myosotis laxa ssp. caespitosa {M. caespitosa} (1011) Frequent. Streams and
          pools, &c. [RP]
Myosotis arvensis (1016) Occasionally. Banks. [RP]
Myosotis discolor {M. versicolor} (1018) Local. Four Oaks, near Powell's
          Pool, &c. [-L]
Myosotis ramosissima {M. collina} (1017) Local. Meadows by Powell's Pool,
          &c. [-L]
Echium vulgare (1003) Rare. Westwood Coppice, 1867-75. [R?]
Convolvulus arvensis (866) Rare. Near Powell's, near Hartopp's. [RP]
Solanum dulcamara (873) Frequent. Marshes, banks, &c. [RP]
Linaria vulgaris (897) Frequent. Banks, &c. [-?]
Scrophularia nodosa (886) Frequent. Banks. [RP]
Scrophularia auriculata {S. balbisii} (884) Rare. By Windley Pool gate, 1870.
          [RP]
Digitalis purpurea (889) Frequent. Woods, &c. [RP]
Veronica beccabunga (920) Frequent. Streams, &c. [RP]
Veronica scutellata (918) Local. Near Bracebridge Pool. [RP]
Veronica officinalis (915) Occasionally. By Hartopp's Park wall. [-L]
Veronica chamaedrys (916) Frequent. [RP]
Veronica serpyllifolia ssp. serpyllifolia {V. serpyllifolia} (909) Frequent.
          Heaths, &c. [-L]
Veronica arvensis (908) Frequent. Heaths, &c. [RP]
Veronica hederifolia (902) Occasionally. Meadows by Powell's Pool. [RP]
Veronica persica {V. buxbaumii} (905) † Casual. Near Hartopp's Park. [RP]
Veronica agrestis (904) Occasionally. Meadows by Powell's Pool. [-L]
Pedicularis palustris (925) Local marshes, Blackroot, Bracebridge, &c. [RP]
Pedicularis sylvatica (926) Frequent. Heath lands. [RP]
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Rhinanthus minor {R. crista-galli} (927) Rare. Heath lands above Bracebridge,

&c. [RP]

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Melampyrum pratense (930) Frequent. Woods, &c. [RP]
Euphrasia nemorosa {E. officinalis} (921) Frequent. Heath lands, &c. [RP]
Odontites verna {Bartsia odontites} (922) Frequent. Heaths, &c. [-L]
Pinguicula vulgaris (1028) Local. Marshes, Mill, Keeper's Pools, &c. [RP]
Utricularia minor (1034) Rare. Not in flower. [-L]
Mentha aquatica {M. hirsuta} (951) Frequent. Pools, marshes, and bogs. [RP]
Lycopus europaeus (943) Local. Windley and Keeper's Pools, &c. [RP]
Thymus praecox ssp. arcticus {T. serpyllum} (959) Frequent. Heath lands.
Acinos arvensis {Calamintha acinos} (963) Rare. By Hartopp's Park, Tudor
          Hill. [-L]
Prunella vulgaris (972) Frequent. Banks, &c. [RP]
Stachys annua Casual. Railway bank, rare. [Suppl.] [-L]
Stachys arvensis {S. arvense} Colonist. Railway bank, frequent. [Suppl.] [-L]
Stachys palustris (980) Meadows by Powell's Pool, rare. [-L]
Stachys sylvatica (982) Local. Near Hartopp's Park wall. [RP]
Stachys officinalis (S. betonica) (978) Rare. Mill Pool, Bracebridge, &c. [RP]
Ballota nigra ssp. foetida {B. nigra var. foetida} (977) Near Powell's Pool
          gate. [RP]
Lamium purpureum (992) Occasionally. Near Mill Pool, &c. [RP]
Lamium album (994) Four Oaks end, and Windley Pool entrance, &c. [RP]
Galeopsis tetrahit s.l. (987) Local. Meadows by Powell's Pool. [RP]
Glechoma hederacea {Nepeta glechoma} (969) Frequent. Banks, &c. [RP]
Scutellaria galericulata (973) Local. Above Blackroot Pool, &c. [RP]
Scutellaria minor (974) Rare. Mill Pool, Bracebridge, &c. [R?]
Teucrium scorodonia (1002) Common. Heath lands. [RP]
Ajuga reptans (996) Frequent. Woods and marshy places. [RP]
Plantago major (1061) Frequent. [RP]
Plantago lanceolata (1063) Frequent. [RP]
Plantago coronopus (1065) Local. Old Race Course. Icknield Street. [RP]
Campanula rotundifolia (818) Frequent. Banks, &c. [RP]
Jasione montana (811) Rare. Near Windley Pool and Sutton gateways. [-L]
Sherardia arvensis (643) Frequent. Fields, and near Hartopp's Park. [RP]
Galium verum (630) Rare. Casual in Westwood Coppice. [-L]
Galium saxatile (633) Frequent. Heath lands. [RP]
Galium palustre (635) Frequent. Marshes, &c. [RP]
          {var. witheringii} Frequent. Marshes, &c.
Galium uliginosum (636) Local. Near Blackroot Pool. [RP]
Galium aparine (639) Frequent. Hedges, &c. [RP]
Cruciata laevipes {Gallium cruciatum} (629) Local. By Hartopp's Park wall.
Sambucus nigra (619) Frequent. Woods, &c. [RP]
Viburnum opulus (621) Local. Pool Hollies, Blackroot, Windley Pools. [RP]
Lonicera periclymenum (624) Frequent. Woods and hedges, &c. [RP]
Valerianella locusta {V. olitoria} Colonist. Rare. Railway banks. W. B. Groves.
          [Suppl.] [-L]
Valeriana officinalis {V. officinalis var. sambucifolia} (646) Pool Hollies,
          Windley Pool, &c. [RP]
Valeriana dioica (645) Frequent in marshes. [RP]
Knautia arvensis {Scabiosa arvensis} (656) Frequent. Meadows by Powell's
          Pool, &c. [-L]
Succisa pratensis (Scabiosa succisa) (654) Frequent. Heath lands. [RP]
Bidens cernua (725) Local. Keeper's and Powell's Pools, &c. [RP]
Senecio jacobaea (717) Occasional. Railway Embankment. [RP]
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Senecio aquaticus (718) Frequent. Marshes, &c. [RP]

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Senecio sylvaticus (713) Local. Hedge Bank, Wiggin's Cottage Grounds, near
          entrance. [-L]
Senecio vulgaris (712) Frequent. Banks, &c. [RP]
Tussilago farfara (741) Local. Pool Hollies, Hartopp's Park wall. [RP]
Pulicaria dysenterica {Inula dysentrica} (732) Local. Pool Hollies Wood,
          abundant. [-L]
Filago vulgaris {F. germanica} (700) Local. By Hartopp's Park wall,
          &c.[Main list] Rare. Bank, at north end of Park. [Suppl.] [-L]
Gnaphalium uliginosum Rare. Bank, at north end of Park. [Suppl.] [RP]
Solidago virgaurea (740) Local. Near Windley Pool entrance. [-L]
Bellis perennis (734) Common. Heaths, &c. [RP]
Eupatorium cannabinum (743) Rare. Below Keeper's and Blackroot Pools.
Anthemis arvensis (691) Rare. Meadow by Hartopp's Park. Colonist. [-L]
Anthemis cotula Colonist. Rare. Railway banks. W. B. Groves. [Suppl.] [-L]
Achillea ptarmica (695) Local. Marshy places, Keeper's Pool, &c. [RP]
Achillea millefolium (694) Occasionally. Banks and heaths, &c. [RP]
Tripleurospermum inodorum {Matricaria inodora} (687) Local. Near Four
          Oaks end, by Milking Gate, &c. [RP]
Chrysanthemum segetum (684) Local. Casual. Railway Embankment. [-L]
Leucanthemum vulgare {Chrysanthemum leucanthemum} (685) Frequent.
          Banks, &c. [RP]
Tanacetum parthenium {Matricaria parthenium} (686) † Rare. Alien. Railway
          Embankment, by Blackroot. [RP]
Artemisia vulgaris (697) Banks, &c. [RP]
Arctium minus s.l. (673) Rare. Colonist. Meadow by Hartopp's Park. [RP]
Carduus nutans (660) Local. Railway Embankment, near Blackroot, &c. [-L]
Cirsium vulgare {Carduus lanceolatus} (662) Frequent. [RP]
Cirsium palustre {Carduus palustris} (664) Frequent. Marshes and bogs. [RP]
Cirsium arvense {Carduus arvensis} (669) Frequent. Heath lands, &c. [RP]
Cirsium dissectum {Carduus pratensis} (666) Local. Near Blackroot, near
          Bracebridge Pool. [RP]
Centaurea nigra (678) Frequent. Heath lands, &c. [RP]
Cichorium intybus Casual. Railway bank, rare. [Suppl.] [RP]
Lapsana communis (745) Frequent. Banks, &c. [RP]
Hypochoeris radicata (748) Frequent. Heath lands, &c. [RP]
Leontodon autumnalis (752) Frequent. Pasture lands, &c. [RP]
Leontodon hispidus (751) Frequent. Pasture lands, &c. [–L]
Leontodon taraxacoides {L. hirtus} (750) Frequent. Pasture lands, &c. [RP]
Mycelis muralis {Lactuca muralis} (761) Local. Pool Hollies, near Cole's
          Gardens. [R?]
Sonchus arvensis (765) Occasionally. Meadows by Powell's Pool. [RP]
Sonchus asper (764) Occasionally. Meadows by Powell's Pool. [RP]
Hieracium umbellatum (805) [An incorrect determination? Apparently not
          accepted by Readett.] Local. Near Halkin's Cottage, Westwood
          Coppice. [-D]
Hieracium Sect. Sabauda: H. sabaudum {H. boreale} (808) Frequent. Woods
          and banks. [RP]
Hieracium Sect. Vulgata: H. vulgatum (799) Frequent. Woods and banks. [RP]
Hieracium Sect. Pilosella: H. pilosella (774) Frequent. Pastures and heaths.
Crepis capillaris {C. virens} (770) Frequent. Banks, &c. [RP]
Crepis paludosa (773) Rare. Marshes. Only Warwickshire habitat. [-L]
Taraxacum spectabile group {T. officinale var. palustre} (757) Keeper's,
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Blackroot and Mill Pools. [RP]

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Taraxacum erythrospermum group \{T. officinale var. erythrospermum, T. o. var.
          laevigatum} (757) [RP]
          {var. erythrospermum} Local. Near Bracebridge, &c.
          {var. laevigatum} Local. Near Blackroot and Keeper's.
Taraxacum officinale group {T. officinale var. dens-leonis} (757) Frequent.
          [RP]
Alisma plantago-aquatica {A. plantago} (1253) Local. Pools—Keeper's,
          Bracebridge, &c. [RP]
Alisma lanceolatum {A. plantago var. lanceolatum} (1253) Rare. Bracebridge
          Pool. [-L]
Elodea canadensis (1260) * Very abundant. Pools, &c. [RP]
Triglochin palustris (1249) Local. Keeper's, Blackroot, and Bracebridge Pools.
Potamogeton natans (1218) Abundant. Pools. [RP]
Potamogeton polygonifolius (1219) Marshes and shallow streams. [RP]
Potamogeton crispus (1231) Occasional. Stream from Blackroot, &c. [RP]
Narthecium ossifragum (1348) Rare. Bracebridge Pool. [-L]
Hyacinthoides non-scripta {Scilla nutans} (1336) Frequent. Woods, &c. [RP]
Juncus inflexus {J. glaucus} (1368) Rare. Pool Hollies. [RP]
Juncus effusus (1366) Local. Marshes. [RP]
Juncus conglomeratus (1365) Frequent. Heath lands and bogs. [RP]
Juncus squarrosus (1380) Frequent. Heath lands. [RP]
Juncus bufonius (1377) Occasionally, near Hartopp's Park. [RP]
Juncus bulbosus {J. supinus} (1374) Frequent. Marshes. [RP]
Juncus acutiflorus (1372) Frequent. Marshes, &c. [RP]
Juncus articulatus {J. lamprocarpus} (1373) Local. Marshes above Blackroot
          Pool. [RP]
Luzula campestris (1355) Frequent. Heath lands. [RP]
Luzula multiflora
     ssp. multiflora {L. multiflora} (1356) Frequent. Heath lands and bogs.
     ssp. congesta {L. multiflora var. congesta} (1356) Frequent. Heath lands
          and bogs. [RP]
Luzula pilosa (1353) Local. Borders of Woods, Lower Holly, and Nut Hursts.
          [RP]
Iris pseudacorus (1307) Local. Blackroot Pool. [RP]
Tamus communis (1317) Local. Hedges near Hartopp's Park, &c. [RP]
Listera ovata (1289) Rare. Westwood Coppice. [-L]
Dactylorhiza fuchsii ssp. fuchsii and/or D. maculata ssp. ericetorum {Orchis
          maculata} (1273) Marshes and bogs. [RP]
Dactylorhiza majalis ssp. praetermissa {Orchis latifolia} (1272) Rare.
          Windley Pool. [RP]
Lemna trisulca (1213) Local. Stream above Blackroot, &c. [-L]
Lemna minor (1214) Frequent. Pool[s] and streams. [RP]
Lemna gibba (1215) Rare. Powell's Pool, Windley Pool. In flower 1870. [RP]
Sparganium erectum ssp. erectum {S. ramosum} (1206) Frequent. Ditches, &c.
Sparganium emersum {S. simplex} (1207) Local. Bracebridge and Blackroot.
          [RP]
Typha latifolia (1204) Local. Bracebridge Pool, &c. [RP]
Typha angustifolia (1205) Local. Bracebridge Pool, Windley Pool. [RP]
Eriophorum angustifolium (1409) Local. Near most of the marshes and bogs.
          [RP]
Eriophorum vaginatum (1408) Local. Near most of the marshes and bogs. [RP]
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Scirpus sylvaticus (1406) Local. Bracebridge and Windley Pools. [-L]

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Eleocharis quinqueflora {Scirpus pauciflorus} (1393) Rare. Only
          Warwickshire habitat. [RP]
Eleocharis palustris {Scirpus palustris} (1390) Frequent. Marshes and pools.
          [RP]
Schoenoplectus lacustris (Scirpus lacustris) (1400) Local. Keeper's and
          Bracebridge Pools. [-L]
Isolepis setacea {Scirpus setaceus} (1398) Local. Near most of the marshes.
Eleogiton fluitans {Scirpus fluitans} (1396) Rare, abundant near Bracebridge
          Pool. [-L]
Carex paniculata (1423) Frequent. Marshes and bogs. [RP]
Carex diandra {C. teretiuscula var. ehrhartiana} (1421) Rare, only Warwick-
          shire habitat. [RP]
Carex spicata {C. muricata} (1425) Local. Four Oaks end of Park. [RP]
Carex remota (1428) Local. No note as to locality on specimen. [RP]
Carex ovalis (1434) Local. Mill and Powell's Pools. [RP]
Carex echinata {C. stellulata} (1427) Frequent in marshes and bogs. [RP]
Carex dioica (1413) Local, near most of the marshy places. [RP]
Carex curta (1433) Local. Mill and Powell's Pools. [RP]
Carex hirta (1472) Local. Windley and Powell's Pools. [RP]
Carex acutiformis {C. paludosa} (1474) Local. Pool Hollies Wood. [RP]
          {var. kochiana} Local. Occurs with above.
Carex riparia (1475) Rare. Near Powell's Pool. [-L]
Carex pseudocyperus (1473) Local. Windley and Powell's Pools. [RP]
Carex rostrata {C. ampullacea} (1476) Local. Bracebridge, Windley, Powell's
          Pools. [RP]
Carex flacca {C. glauca} (1443) Frequent. Heath lands. [RP]
Carex panicea (1455) Frequent. Marshy places. [RP]
Carex laevigata (1463) Rare. Blackroot Pool. [-L]
Carex binervis (1464) Frequent. Heath lands. [RP]
Carex hostiana {C. fulva} (1467) * Rare. Only Warwickshire habitat. [RP]
Carex caryophyllea {C. praecox} (1452) Local. Heath lands. [RP]
Carex pilulifera (1450) Local. Near Blackroot Pool. [RP]
Carex nigra {C. vulgaris} (1442) Frequent. Marshes. [RP]
Carex pulicaris (1414) Local, near most of the marshy places. [RP]
Festuca pratensis (1573) Rare. Near Powell's Pool, but not abundant. [RP]
Festuca rubra {F. rubra var. duriuscula} (1570) Pastures, banks, &c. [RP]
Festuca tenuifolia {F. ovina var. tenuifolia} (1569) Local. Coppice near
          Powell's Pool. [RP]
Festuca ovina (1569) Heath lands (scattered). [-P]
Lolium perenne (1592) Frequent. [RP]
Vulpia bromoides {Festuca sciuroides} (1568) Local. Near Hartopp's Park
          wall, &c. [-L]
Poa annua (1549) Abundant everywhere. [RP]
Poa pratensis (1558) Frequent. Banks, &c. [RP]
          {var cerulea} Heath lands, near Rowton's Well, &c.
Poa trivialis (1559) Frequent. Woods, &c. [RP]
Dactylis glomerata (1564) Frequent. Pastures and heath lands. [RP]
Cynosurus cristatus (1562) Frequent. Pastures and heath lands. [RP]
Catabrosa aquatica (1539) Local. Keeper's and Mill Pools. [RP]
Briza media (1560) Rarish. Heath lands near Four Oaks end of Park. [RP]
Melica uniflora (1538) Rare. Pool Hollies Wood. [-L]
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Glyceria fluitans (1540) Frequent. Streams, ditches, Pools, &c. [RP] Bromus sterilis (1579) Local. Sutton, and Four Oaks near gates. [RP]

Bromus ramosus {B. asper} (1575) Local. Colonist. Railway Embankment. [-

Bromus hordeaceus ssp. hordeaceus {B. mollis} (1583) Frequent. [RP]

Elymus repens {Triticum repens} (1588) Hedges occasionally. [RP]

Arrhenatherum elatius {Avena elatior} (1531) Frequent. Hedge banks, &c.

Trisetum flavescens {Avena flavescens} (1526) Rare. Hedge banks near Sutton entrance. [-?]

Deschampsia cespitosa {Aira caespitosa} (1520) Frequent. Heath lands, &c.

Deschampsia flexuosa {Aira flexuosa} (1523) Common on heath lands. [RP] Aira praecox (1525) Frequent. Heath lands. [RP]

Aira caryophyllea (1524) Local. Near Hartopp's Park wall. [RP]

Anthoxanthum odoratum (1488) Frequent, two forms. [RP]

Holcus lanatus (1533) Frequent. Woods and banks. [RP]

Holcus mollis (1532) Frequent. Woods and banks. [RP]

Agrostis canina (1509) Local bogs. Windley and Powell's Pools. [RP]

Agrostis capillaris {A. vulgaris} (1511) Frequent. [RP]

{var. pumila} Rare. A few plants above Blackroot, 1872.

Agrostis stolonifera {A. alba} (1510) Not infrequent. [RP] Alopecurus pratensis (1495) Frequent. [RP]

Alopecurus geniculatus (1493) Occasionally. [RP]

Alopecurus aequalis {A. fulvus} (1492) Rare. Near Powell's Pool and Wigan's [=Wiggin's?] grounds. [-L]

Phalaris arundinacea {Digraphis arundinacea} (1489) A few plants by Powell's Pool. [RP]

Phalaris canariensis {P. canariense} Casual. Railway bank. Local. [Suppl.] [-

Danthonia decumbens {Triodia decumbens} (1534) Frequent. Heath lands. [RP]

Molinia caerulea (1536) Abundant. Heath lands and woods.

Nardus stricta (1601) Heath lands. Scattered, abundant near Mill Pool.

### MOSS FLORA OF SUTTON PARK<sup>10</sup>

Sphagnum palustre {S. cymbifolium} Abundant. Marshes and Bogs. [LP]<sup>11</sup> {var. squarrosulum} Local. Keeper's and Bracebridge. {var. compactum} Local. Elevated places near Marshes.

<sup>10</sup>Names and order generally follow Watson, E.V., British Mosses and Liverworts, third edition, Cambridge University Press, 1981. Where Bagnall's name differs from that currently used, the current name has been inserted and his original is given in braces, thus: {...}. Vars. listed by Bagnall are frequently not recognized now, but have been included for completeness.

<sup>&</sup>lt;sup>11</sup>The first letter of the code indicates whether the species was given a locality by Laflin in Readett (1971) and hence was presumably present in the 1960s: 'L' means yes, '-' no. The second letter of the code indicates whether the species is believed to be present now: 'P' present, 'L' lost, 'D' doubtful record.

Sphagnum papillosum Above Bracebridge in several places. [LP] {var. confertum} Blackroot and Bracebridge Pools. Sphagnum squarrosum Windley, Powell's, and Bracebridge. [LP] Sphagnum recurvum {S. intermedium} In all the Bogs and most Marshes. [LP] Sphagnum cuspidatum Marsh near Blackroot Pool. [LP] Sphagnum subsecundum Marshes and Bogs. Keeper's, Blackroot, &c. [LP] {var. contortum} Above Keeper's Pool. {var. turgidum} Above Blackroot. *Sphagnum auriculatum* {*Sphagnum subsecundum* var. auriculatum} Blackroot. Bracebridge and Mill Pools. [LP] Sphagnum fimbriatum Between Blackroot and Bracebridge. Buried by Railway. [LP] Sphagnum subnitens (probably) {Sphagnum acutifolium} In all the bogs. [LP] {var. patulum} In more elevated places near marshes. Tetraphis pellucida Frequent on tree roots in Woods. [LP] Polytrichum aloides {Pogonatum aloides} Many of the sandy banks. [LP] Polytrichum juniperinum Several places on the heath lands. [LP] Polytrichum longisetum {P. gracile} Elevated tufts, near marshes. [–P] Polytrichum formosum Lower Nut Hurst. [LP] Polytrichum commune Marshes and bogs. [LP] Polytrichum piliferum Several places on the heath lands. [LP] Atrichum undulatum Frequent. [LP] Fissidens bryoides Local. Windley Pool, Coppice, &c. [LP] Fissidens taxifolius Rare. Pool Hollies, Mar., 1877. [Add.] [-P] Fissidens adianthoides Local. Marshes, Windley Pool, and Mill Pool. [LP] Fissidens incurvus A few plants near Hartopp's Park, Mar., 1877. [Add.] [-L] Dicranella varia Local. Near Mill Pool. [-L] Dicranella heteromalla Frequent. Banks, &c. [LP] Dicranella cerviculata Local. Near Keeper's and Blackroot Pools, &c. [LP] Dicranum bonjeanii {D. palustre} Banks, Woods, and Wet places abundant. [-L] Dicranum scoparium Rare. Very dwarfed here, Heath lands. [LP] Dicranum montanum Rare. 1867. First British Station, Nuthurst. [LP] Ceratodon purpureus Frequent. Heath lands, &c. [LP] Dicranoweisia cirrata {Weissia cirrhata} Local. On Trees and Pales. Lower and Upper Nuthursts. [LP] Campylopus pyriformis {C. turfaceus} Local. Fruiting above Blackroot, 1875. [Spelt torfaceus in the original.] [LP] Campylopus fragilis Local. Heath lands. [-P] Leucobryum glaucum Local. Near Bracebridge, Blackroot, and Windley. [-L] Pseudephemerum nitidum {Phascum nitidum} Local. Meadows near Mill Pool.

[-P] *Tortula subulata* Bank near Sutton entrance. [-L]

Tortula muralis Frequent on brickwork. [LP]

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{var. aestiva} Wall of Dam Bracebridge Pool.

{var. incana} Local. Walls, Hartopp's Park Wall, 2/77. [Add.]

{var. rupestris} Local. Near Keeper's pool, 2/77. [Add.]

Tortula marginata Wall of Bridge, near Wigan's grounds. [-L]

Pottia truncata Local. Near Powell's Pool. [-P]

Phascum cuspidatum Local. Near Powell's Pool, &c. [-P]

Acaulon muticum {Phascum muticum} Rare. Near Powell's Pool. [-L]

<sup>&</sup>lt;sup>12</sup>Indicates that the species was originally listed in the addenda (see page 20), but here has been included in the main list.

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Barbula convoluta {Tortula convoluta} Wall of Bridge Bracebridge Pool [LP]
Barbula unguiculata {Tortula unguiculata} Meadows, near Powell's Pool. [–P]
Barbula fallax {Tortula fallax} Wall of Dam Bracebridge Pool. [-L]
Barbula recurvirostra {Trichostomum rubellum} Local. On Bridge above
          Blackroot, &c. [-L]
Barbula revoluta {Tortula revoluta} Wall of Bridge Bracebridge Pool [-L]
Barbula tophacea {Trichostomum tophaceum} Brick Wall at Bracebridge Pool.
Weissia controversa Banks. Near Powell's Pool. [-L]
Weissia microstoma Rare. Near Powell's Pool. [-D]
Weissia longifolia {Systegium multicapsulare} Rare. Only Warwickshire station.
          [Footnote adds: "Dr Braithwaite thinks this to be S. crispum"; both are
          now regarded as W. longifolia.] [-L]
Grimmia pulvinata Walls of Hartopp's Park. Rare. [LP]
Funaria hygrometrica Frequent. Heaths and Woods. [LP]
Physcomitrium pyriforme Sandy places Mill and Bracebridge. [-P]
Ephemerum serratum Meadows near Powell's and near Hartopp's. [-L]
Pohlia nutans {Bryum nutans} Frequent. Woods and wet places. [LP]
Pohlia wahlenbergii {Bryum albicans} Sandy, wet places Mill Pool. [LP]
Pohlia proligera {Bryum annotinum} Sandy banks near Wigan's Estate. [LP]
Bryum pallens Sandy wet places near Mill Pool. [LP]
Bryum intermedium Wall of dam Bracebridge Pool. [-L]
Bryum radiculosum {Bryum murale} Rare. Walls, &c. [Add.] [-L]
Bryum pseudotriquetrum Marshes Mill and Powell's Pools. [LP]
     var. bimum {Bryum bimum} Marshes. Frequent. [-?]
Bryum caespiticium Walls near Bracebridge. [-P]
Bryum argenteum Frequent. Heath lands, &c. [LP]
Bryum bicolor s.l. {Bryum atropurpureum} Heath lands. Frequent. [-P]
Bryum capillare Walls near Bracebridge. [LP]
Rhodobryum roseum {Bryum roseum} Rare. Near Pool, Hollies Wood, Feb.,
          1877. [Add.] [-L]
Mnium hornum Frequent. [LP]
Plagiomnium affine {Mnium affine} Marshes, Bogs, and Pools. Always barren.
Plagiomnium undulatum {Mnium undulatum} Marshes, Bogs, &c. [LP]
Rhizomnium punctatum {Mnium punctatum} Windley, Keeper's, Powell's
          Pools. [LP]
Rhizomnium pseudopunctatum {Mnium subglobosum} Windley, Keeper's, and
          Powell's Pools. [LP]
Aulacomnium androgynum Woods and banks. [LP]
Aulacomnium palustre Marshes and bogs. [LP]
Amblyodon dealbatus Near Rowton's Well [-L]
Bartramia pomiformis Banks, near Westwood Coppice. [-L]
Philonotis fontana {Bartramia fontana} Marshes, rare, in fruit. [LP]
Climacium dendroides Marshes and Bogs. [LP]
Thuidium tamariscinum Woods, Lower Nut Hurst, &c. [LP]
Cratoneuron filicinum {Hypnum filicinum} Frequent in Marshes. [LP]
Cratoneuron commutatum {Hypnum commutatum} Above Blackroot and Brace-
          bridge. [LP]
     var. falcatum {Hypnum falcatum} Mill, Blackroot, Keeper's, and
          Bracebridge. [LP]
Campylium stellatum {Hypnum stellatum} Marshes, Keeper's, and other pools.
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Campylium polygamum {Hypnum polygamum} Bog, above Blackroot. [-L]

*Leptodictyum riparium* {*Hypnum riparium*} Not infrequent. [–P]

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{var. longifolium} Well, near Powell's Pool.
Amblystegium serpens {Hypnum serpens} Frequent. Tree roots, &c. [LP]
Amblystegium varium {Hypnum radicale} Rare. Only Warwickshire habitat,
          1874. [-L]
Hygroamblystegium tenax {Hypnum irriguum} On wall of dam, Bracebridge
          Pool. [-L]
Hygroamblystegium fluviatile {Hypnum fluviatile} Rare. Only Warwickshire
          habitat, 1877. [-L]
Drepanocladus aduncus {Hypnum aduncum} Marshes, near Mill Pool. [–P]
Drepanocladus fluitans {Hypnum fluitans} Frequent in swamps. [LP]
Drepanocladus exannulatus {Hypnum exannulatum} Keeper's Pool. Abundant.
Drepanocladus revolvens var. intermedius {Hypnum intermedium} Keeper's
          Pool, Marshes. [L?]
Drepanocladus vernicosus {Hypnum vernicosum} Bracebridge and Windley
          Pools. [LP]
Drepanocladus sendtneri {Hypnum sendtneri} Mill Pool Marshes, &c. [-L]
Hygrohypnum luridum {Hypnum palustre} On wall of dam, Bracebridge. [-L]
Calliergon cuspidatum {Hypnum cuspidatum} Frequent Marshes. [LP]
Calliergon cordifolium {Hypnum cordifolium} Most of the Bogs. [LP]
Calliergon stramineum {Hypnum stramineum} Bog above Blackroot. [LP]
Calliergon giganteum {Hypnum giganteum} Windley Pool. [LP]
Isothecium myurum On a fallen tree, Upper Nut Hurst [-L]
Homalothecium sericeum Rare. Hartopp's. [-P]
Brachythecium albicans Rare. Near Keeper's Pool, 2/77. [Add.] [LP]
Brachythecium velutinum Banks, frequent. [-P]
Brachythecium rutabulum Banks, &c., frequent. [LP]
Eurhynchium praelongum Frequent. Banks, &c. [LP]
Eurhynchium swartzii Meadows, near Powell's, rare. [LP]
Eurhynchium speciosum Windley Pool, rare. [-D]
Rhynchostegium confertum Windley and Powell's Pool, banks. [–P]
Rhynchostegium riparioides {R. ruscifolium} Frequent. [LP]
Rhynchostegium murale Wall above Blackroot Pool. [-L]
Pseudoscleropodium purum {Hypnum purum} Frequent Woods and Heaths. [-P]
Plagiothecium denticulatum Frequent. [LP]
Plagiothecium latebricola Windley Pool, near. [-P]
Plagiothecium nemorale {P. sylvaticum} Treeroots in marshes, rare. [–P]
Plagiothecium undulatum Rare. New to Warwickshire, 2/77. [Add.] [–P]
Isopterygium elegans {Plagiothecium elegans} Banks, near Windley Pool. [LP]
Hypnum cupressiforme Frequent Heaths and Woods. [LP]
          {var. minus} On Trees and Woods.
     var. resupinatum On tree trunk, Blackroot. [-P]
     var. filiforme Heathlands.[-L]
     var. lacunosum {H. c. var. elatum} Bracebridge Pool, 1877. [Add.] [-D]
Hypnum lindbergii Rare. Near Pool Hollies. [Addition to the Addenda from the
          Errata.] [-L]
Ctenidium molluscum {Hypnum molluscum} Near Mill Pool, abundant. [LL]
Rhytidiadelphus squarrosus {Hypnum squarrosum} Frequent. [LP]
Pleurozium schreberi {Hypnum schreberi} Frequent Woods and Heaths. [–P]
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Correct name? {Tortula insulana} Rare. Bracebridge Pool on brickwork.

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[A short section headed "Addenda" appears here in the original; this list has been merged with the main list above.]

It will be seen by the foregoing list that I find in Sutton Park about 496 species and varieties of Flowering Plants, Ferns, and their allies, comprising about 224 genera and 66 natural orders, and over 120 species and varieties of Mosses, or what is equal to about <sup>1</sup>/<sub>4</sub> of the British Flowering Plants and Mosses; so that within a very limited area and close to [our] own town, we have material enough if properly and thoroughly worked to give a young student a very fair knowledge of British Botany.

In the *Compendium of the Cybele Britannica*, Mr. Hewett C. Watson arranges our British Plants into six primary groups, as an aid to the study of their geographical distribution, and analyzing the flora of Sutton Park by means of Mr. H. C. Watson's valuable work, I find that the Sutton plants may be thus grouped.

- 295 British type, i.e., those species widely spread though South, Mid, and North Britain.
  - 80 English type, i.e., species chiefly seen in South and South-Mid Britain.
  - 10 Scottish type. Species chiefly seen in North and North-Mid Britain.
    - 1 Intermediate type. Species chiefly seen in Mid-Britain.
    - 5 Highland type. Species chiefly seen about mountains.
    - 6 Germanic type. Species chiefly seen in East England.
  - 2 Atlantic type. Species chiefly seen in West England.

All the types of distribution being more or less represented.

It is, of course, a matter of great interest to note the plants occurring in a given district, but it is also both useful and interesting to note which of the common and likely plants are absent from a given district; and I think it is often more difficult to account for the absence of a common plant than to account for the presence of a rare one. Below I have roughly noted some of the plants absent from Sutton Park that, taking into consideration the soil and the nature of its various habitats, I should have expected to find there:—

Nuphar lutea<sup>13</sup>
Circaea lutetiana
Galium odoratum {Asperula odorata}
Zannichellia palustris<sup>13</sup>
Carex pendula<sup>13</sup>
Carex vesicaria
Milium effusum<sup>13</sup>
Brachypodium sylvaticum<sup>15</sup>

Potentilla anserina<sup>13</sup>
Oenanthe fistulosa
Mentha arvensis<sup>14</sup>
Potomogeton pectinatus<sup>14</sup>
Carex sylvatica
Phleum pratense<sup>14</sup>

Poa nemoralis Equisetum sylvaticum<sup>13</sup>

<sup>&</sup>lt;sup>13</sup>Since found and believed present.

<sup>&</sup>lt;sup>14</sup>Found later by Bagnall himself and believed still present.

Any of the above may be expected to be found by more careful and special searching.

My reasons for carefully going over my old ground this year, were first to note whether any of my old friends had been exterminated by the railway, which unfortunately passes over some of the best habitats in Sutton Park; I found, however, that although in one or two cases the plants were destroyed in one spot, that they were to be found quite as plentiful as heretofore in new habitats, so that really no plant of my former list was missing, and by this re-investigation I was able to add materially to my list of common plants. I was thus able to carry out my second reason for this re-investigation, namely, to make a complete list of the Sutton [Park] plants, so that in future years I might be able to note the influence of this new invasion on the flora of the place.

To the mere lover of Nature, apart from Botany or the allied sciences, I can with confidence commend this place, and can assure such that they may spend many a happy hour here, where they may "hold converse with Nature and view her stores unrolled," and may find here much food for a reflective mind.

"Stranger, if thou has learnt a truth—which needs Experience more than reason—that the world Is full of guilt and misery, and hast known Enough of all its sorrows, crimes and cares To tire thee of it—enter this wild place And view the haunts of Nature. The calm abode Shall bring a kindred calm, and the sweet breeze That makes the green leaves dance shall waft a balm To thy sick heart. Thou shalt find nothing here Of all that pained thee in the haunts of men."

[The original ends with a list of the Rubi and Rosi of Warwickshire, followed by a list headed "Supplement to the Sutton Park Flora". The species given in this latter list have been included in the main list of vascular plants.]

<sup>&</sup>lt;sup>15</sup>Found later by Bagnall himself but since lost.