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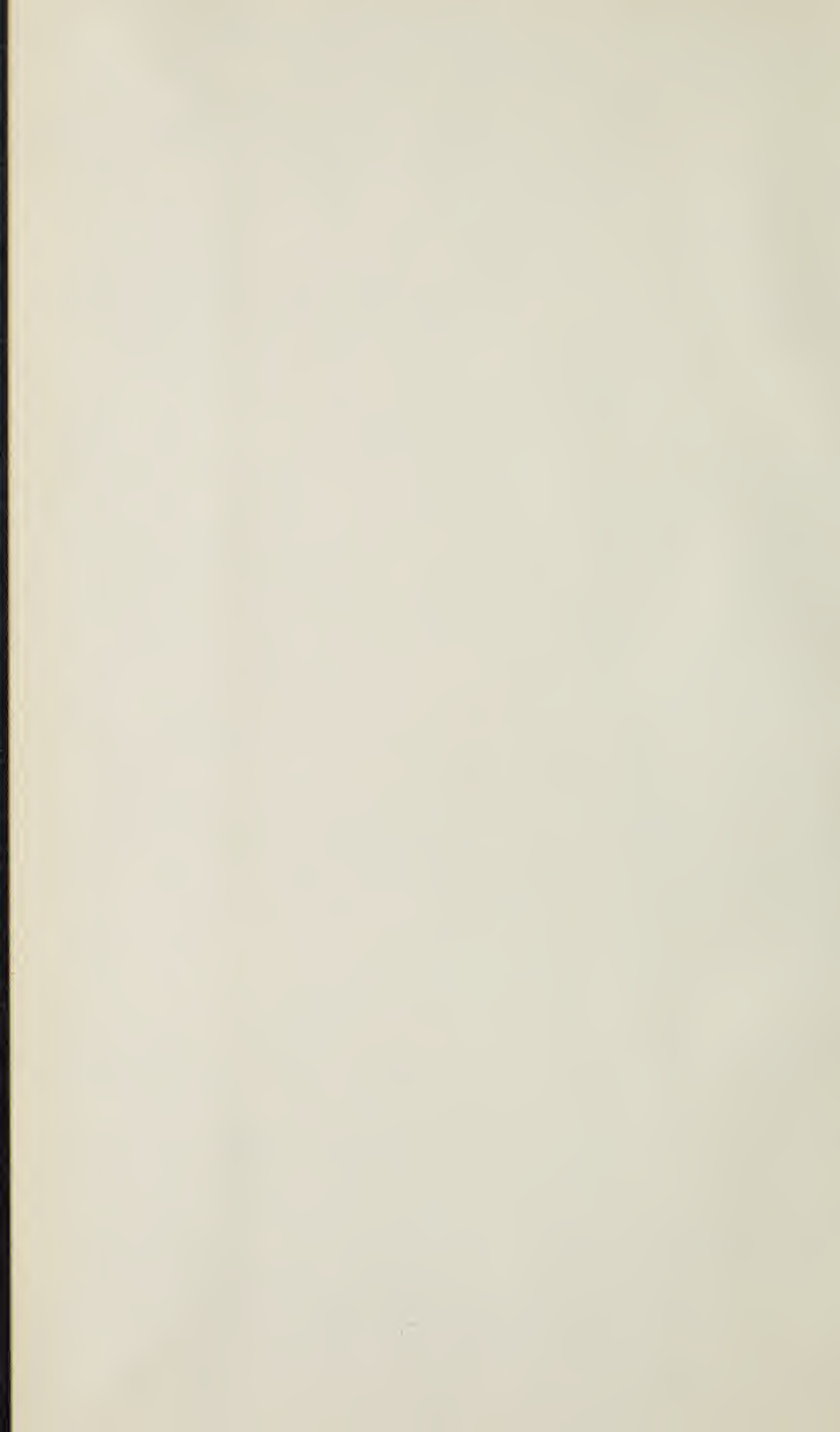


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# THE TRANSACTIONS OF THE YORKSHIRE NATURALISTS' UNION.

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## PART 34

(*New Miscellaneous Series No. 2*).

Issued to the Members for the year 1908.

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JUNE, 1909.

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YORKSHIRE NATURALISTS' UNION.

FORTY-FOURTH ANNUAL REPORT, FOR 1905.

80424 Presented at Bradford, January 27th, 1906.



Your Executive Committee has pleasure in submitting the following report on the year's work of the Union, and of its Committees and Sections.

The Forty-third Annual Meeting was held at Leeds on Saturday, December 17th, in the Philosophical and Literary Society's rooms. Two excursions preceded the business meeting; one consisting of Geologists, under the leadership of Mr. E. Hawkesworth; the other under the leadership of Messrs. S. Margerison and A. White, visited Roundhay Park and the greenhouses.

At the General Meeting, under the chairmanship of Mr. H. C. Marsh, Mr. A. H. Pawson delivered his Presidential Address entitled "Weeds," which was printed in the "Naturalist" for January last.\*

After the Address, a Conversazione was held in the Museum and adjoining rooms, several special exhibits having been arranged, and refreshments kindly provided by the various Leeds Societies.

The Ordinary Field Meetings during the year have been five in number, and were held as under—detailed reports of which, prepared by the Hon. Secretary, appeared in the "Naturalist" in the issues immediately following the meetings. In addition the usual Fungus Foray was held, and duly reported upon by Mr. Crossland:—

- 1905. May 6th (Saturday)—Ripon.
- June 10th to 12th (Whit Week-end)—Askrigg.
- July 8th to 10th (Week-end)—Loftus.
- August 5th to 7th (August Bank Holiday Week-end)—Pocklington.
- September 9th (Saturday)—Barnsley.
- September 23rd to 28 (Fungus Foray)—Maltby and Roche Abbey.

**Ripon.**—At this the first excursion for the year there was a large attendance. The members met at the Town Hall, where the Town Clerk shewed some of Ripon's ancient records, and also the natural history collections stored there pending a more suitable home for them being found. The banks of the Skell

\* The same issue contains a more detailed account of this Annual Meeting.

and the Fountains Abbey grounds were investigated, under the guidance of Messrs. B. M. Smith and T. Pratt. Mr. Pawson presided at the meeting held after tea, and ten new members were elected.

**Askrigg.**—Whit week-end was spent in this delightful district; Whitfield Gill, the fells beyond, Muker, Kisdon Force, and Semmerwater being amongst the places visited. The party had the advantage of the leadership of Messrs. W. Horne and J. Hartshorn, of Leyburn. Mr. Horne gave an address "On the Geology and Pre-historic Remains of the District," and Mr. Cosmo Johns introduced a discussion on methods of mapping. Mr. Johns' remarks have since been put in concrete form and printed in the September "Naturalist." Four new members were elected at this meeting.

**Loftus.**—A pleasant week-end was spent on the Cleveland Hills, at Loftus, from July 8th to 10th. Mr. J. J. Burton and his son, Mr. G. A. Burton, assisted and allowed the members to visit the Liverton Ironstone Mine and workings. On the Monday the various sections were under the leadership of Messrs. W. G. Smith, Ph.D., T. A. Lofthouse, M. L. Thompson, K. MacLean, and J. W. Stather respectively. The coast between Kilton Beck and Staithes was examined by the geologists, who also spent a day in investigating the plant bed at Marske. At the evening meetings, Mr. Burton gave an account of the geology of the district, Dr. Smith referred to the local plant associations, &c., and an interesting discussion also took place relating to the origin of the iron in the Cleveland ore. Four new members were elected.

**Pocklington.**—The 189th meeting was held at Pocklington, on August Bank Holiday week-end. Nunburnholme, the home of the late F. O. Morris was visited, and the Rector, the Rev. M. C. F. Morris, kindly showed the members round. Warter Priory was also visited on the Saturday, and subsequently Allerthorpe Common, Yapham, Givendale, and Millington were investigated. Mr. Porritt presided at the tea on Bank Holiday. Four new members were elected.

**Barnsley.**—Cudworth and Barnsley were visited on September 9th. Geological sections were examined near the railway, and on Houghton Common, and work for the remainder of the party was also found on the Common and in the adjoining woods. Messrs. A. Whitaker, H. B. Nash, and other local workers helped a good deal towards the success of the meeting. After tea a meeting was held in the excellent rooms of the Barnsley Naturalists' Society. Three new members were elected.



**Maltby.**—Five days were spent in examining the Maltby and Roche Abbey district by the members of the Mycological Committee, towards the end of September. As in previous years most excellent work was accomplished, though all the material collected has not as yet been thoroughly examined. Two new members were elected.

Speaking of the excursions generally, it can be safely said that upon the amount of solid work accomplished on them depends very largely the success of the Union. Whilst the day meetings are, perhaps, too short for very much work being accomplished, still much has been done on these occasions, whilst upon the two and three days' outings the results have been most gratifying. And at the excursions there is every evidence of an intention of all those present to thoroughly examine the district so far as their particular sections are concerned, and the holiday-picnic type of excursionist, of whom we hear so much in some other societies in the country, is absent from the meetings of the Yorkshire Naturalists' Union.

The evenings during the week-end excursions are also profitably occupied by discussing various suitable topics. As a result of the Loftus meeting, it is recommended that another excursion be held in the Cleveland area in 1906, when the question of the Ironstone shall be thoroughly discussed. It is also hoped that during the coming year something definite may be done by the Union in regard to a worker's map of the county.

It should here be remarked that the promptness with which the results of the work accomplished on these excursions has appeared in the "Naturalist," has considerably increased the value of that journal, as well as added an interest to the excursions themselves.

**Excursion Programmes** giving particulars of the districts visited have been circulated prior to each meeting, as in past years.

**Permission to visit Estates** has been kindly granted by the landed gentry of the county.

**Railway facilities** have also been generously given by the various Railway Companies, as in previous years.

**Excursions for 1906.**—The following are the places and dates for excursions for 1906:—

- For York N.W.—Ingleton (Week-end, second week in May).
- For York S.E.—Flamborough (Whit Week-end, June 3rd to 5th).
- For York Mid W.—Fewston for Washburn Valley (end of June).
- For York S.W.—Askern (Thursday, middle of July).
- For York N.E.—Guisborough (August 18–20).
- Fungus Foray at Farnley Tyas, near Huddersfield (September 22–26).

**Annual Meeting for 1906.**—The next Annual Meeting will be held at York, by invitation of the York and District Field Naturalists' Society.

**Winter Lecture Scheme.**—Judging from the various syllabuses of Societies received by the Secretary, the Societies affiliated with the Union are taking full advantage of the Union's lecturers. Whilst the Societies admittedly derive much benefit from the scheme, the Union has no apparent direct benefit—though, indirectly, of course the Union is the gainer. The Hon. Secretary has been instructed to prepare a revised list of lectures, which will be distributed shortly.

**Objects of the Union.**—The Secretary will supply circulars setting forth the objects and aims of the Union on application.

**The Societies affiliated** with the Union show a gradual increase in numbers. Four new Societies have become affiliated during the year, viz :—The Bootham School Natural History Club (York); the Goole Scientific Society; the Lindley Naturalist and Photographic Society; and the Crosshills and District Naturalists' Association. During the year the Bradford Scientific Association and the Hull Geological Society have increased their subscription to the full affiliated fee, and the Milnsbridge Naturalists' Society has increased its subscription to £1 1s. in consequence of the benefit derived from the Winter Lecture Scheme. There are now thirty-seven Societies affiliated with the Union; the total membership of which is 2900.

**The Statistics** furnished by the Secretaries of the various Societies to the Secretary of the Union show that the average membership of the Societies is 75, or a total of 2900, as already stated. Added to this, the membership of the Union, the total numerical strength is 3325.

**The Membership** of the Union now stands at 425 (including Societies), an increase of 19, compared with last year.

The following new members\* have been elected during the year :—

Abbott, J., School House, Anlaby, Hull.

Ackroyd, J., 39, King Street, Heckmondwike.

Blagborough, F. G., 10, Spring Bank, Manningham, Bradford.

Denison, Abnar, Market Street, Milnsbridge.

Dwerryhouse, A. R., D.Sc., F.G.S., Oakfield Terrace, Headingley, Leeds.

Eddrup, Rev. T. B., M.A., Horbury Vicarage, Wakefield.

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\* This list includes those elected at the Annual Meeting.



- Erskine, A. M., M.D., Medical Officer of Health, Goole.  
 Firth, J. S., 55, Brocco Bank, Sheffield.  
 Fordham, W. J., M.R.C.S., 132, St. Mary's Road, Sheffield.  
 Godwin, Ald. J. Arthur, J.P., The Clock House, Bradford.  
 Golledge, G. W., Rose Cottage, Hexthorpe, Doncaster.  
 Grace, G., B.Sc., Oak Mount, Lawn Road, Doncaster.  
 Howard, Thos., Oakroyd, Manningham, Bradford.  
 Inman, Rev. E. J., Beacon Banks, Easingwold, Yorks.  
 Jowett, F., Strawberry Cottage, Gilstead, Bingley.  
 Lofthouse, J. H., 62, Dragon Parade, Harrogate.  
 March, Henry, 2, West Hill Terrace, Chapel-Allerton, Leeds.  
 Matthews, E. R., C.E., F.G.S., Borough Engineer, Bridlington.  
 Morley, Ben, Wind Mill, Skelmanthorpe, Huddersfield.  
 Moses, G. W., West View, Bishop Auckland.  
 Northcote, A.B., M.D., Blenheim House, Monkgate, York.  
 Patterson, J. W., 14, Mitchell Street, West Hartlepool.  
 Peacock, Rev. E. A. Woodruffe, F.G.S., &c., Cadney, Brigg,  
 Lincs.  
 Peck, M. C., Park Villas, The Valley, Scarborough.  
 Pentland, J., College Road, Ripon.  
 Schwabe, A. L., 56, Market Street, York.  
 Simpson, H., 17, Turner Street, Redcar.  
 Smith, Thomas, London Road, Alderley Edge.  
 Stansfield, Miss E., 3, Milton Street, Halifax.  
 Stump, E. C., 16, Herbert Street, Moss Side, Manchester.  
 Sutcliffe, W. R., 13, East Parade, Harrogate.  
 Walker, S., Council School, Calverley, Leeds.  
 Waterworth, H., 7, Kingsley Place, Halifax.  
 Wilson, W., Holywell Cottage, Skipton in Craven.  
 Winter, W. P., B.Sc., 28, Westcliff Road, Shipley.  
 Womersley, C. E., Secondary School, Heckmondwike.  
 Bootham, School Nat. Hist. Club, Secretary, F. E. Pollard, M.A.,  
 Bootham School, York.  
 Crosshills and District Naturalists' Association, Secretary, H.  
 Cowling, 23, Skipton Road, Silsden, via Keighley.  
 Goole Scientific Society, Secretary, O. C. Hudson, The Free  
 Library, Goole.  
 Lindley Naturalists' and Photographic Society, Secretary, J  
 Ackroyd, Ainley Top, Lindley, Huddersfield.

We regret to record the death of the following members :—

- Sir John Barran, Bart. (Leeds).  
 R. Paver-Crow, J.P. (Boroughbridge).  
 J. H. Wurtzburg, J.P. (Leeds).  
 R. C. Chayter (Middleham).  
 C. T. Lucy (York).  
 W. H. Smith (Durham).

**Divisional Secretaries** :—As in past years, the divisional secretaries have been invaluable in making the local arrangements for our excursions, &c.

It is decided that for 1906 they be as under :

- York, S.W.—H. H. Corbett, 9, Priory Place, Doncaster.  
 A. Whitaker, Savile House, Worsbrough  
 Bridge, Barnsley.
- York, Mid W.—Riley Fortune, Lindisfarne, Harrogate.
- York, N.W.—W. Robinson, Greenbank, Sedbergh.
- York, N.E.—J. J. Burton, Nunthorpe, R.S.O., Yorks.
- York, S.E.—J. W. Stather, 16, Louis Street, Hull.

**Local Treasurers**.—The Hon. Secretary much regrets that pressure of work in 1905 has prevented him taking full advantage of the kind help so willingly proffered by the local Treasurers in past years. He hopes, however, that during the coming year he may be able to take fuller advantage of their services.

The Hon. Local Treasurers are re-elected as follows :—

- Bradford—S. Margerison, Calverley, nr. Leeds.
- Halifax—C. Crossland, 4, Coleridge Street, Halifax.
- Huddersfield—W. E. L. Wattam, 54, Towngate, Newsome,  
 Huddersfield.
- Leeds—H. Ostheide, 91, Harehills Avenue, Leeds.
- Malton—M. B. Slater, Newbiggin, Malton.
- Middlesbrough—T. F. Ward, Park Road South, Middles-  
 brough.
- Redcar—T. H. Nelson, The Cliffe, Redcar.
- Ripon—Wm. Gregson, Baldersby S.O., Yorks.
- Scarborough—J. H. Rowntree, Folkton Manor, Ganton, York.
- Sheffield—A. T. Watson, Southwold, Topton Crescent,  
 Sheffield.
- Skipton—J. J. Wilkinson, Burnside, Skipton.
- Whitby—Thomas Newbitt, 17, Royal Crescent, Whitby.

**General Committee**.—The following gentlemen have been added to the Permanent General Committee :—

- S. Margerison, Calverley, Leeds.  
 E. Naylor, Bradford.  
 H. B. Booth, Bradford.

**Transactions**.—The detailed report upon the position in regard to the Transactions which appeared in our last report has met with general approval, and the work of the Union, as far as publishing Transactions is concerned, is now carried out on these lines.

“Mr. W. D. ROEBUCK'S PRESIDENTIAL ADDRESS for 1904, entitled 'The salient features connected with the History of the Union,' was issued to the members, as a separate pamphlet, in January last. The address has been issued absolutely without cost to the Yorkshire Naturalists' Union; this has been borne equally by Messrs. Denison Roebuck and John Farrah.

“‘FUNGUS FLORA.’—The unremitting labours of Mr. C. Crossland and his colleagues, Mr. G. Masee and others, during the past summer, resulted in the completion in September of the second, and final part of the 'Fungus Flora of Yorkshire.' This contained no fewer than 350 pages, and was distributed free to each member of the Union. Through the help of the Mycological Committee and its friends, as well as of the publishers (Messrs. A. Brown & Sons, Ltd.), this was issued without any cost whatever (beyond postage) to the Union's funds.

The Fungus Flora of our county is another completed memoir, and it is to be hoped that all the members will do their best to aid the work by seeing it purchased for local libraries, &c. (Cloth 10/6 net).

“‘BAKER'S NORTH YORKSHIRE.’—As a result of the decision of your Executive a year ago, Messrs. J. G. Baker and M. B. Slater (who has prepared the section devoted to the Mosses) have been hard at work completing this valuable Memoir. An Index to the flowering plants and ferns, and a Geographical Index, have been printed off, as well as 220 pages of the Mosses and Hepatics. There is every probability of the completing part of this work being printed off early in 1906, and distributed to the members. At the same time the complete work will be put on the market, the sale from which will, it is hoped, pay for the printing of the final part, as well as put money into the coffers of the Union. Thus still another of the Union's long-contemplated monographs will be an accomplished fact.

“‘BIRDS OF YORKSHIRE.’—The publication of this work has occupied the serious attention of your Executive and Officers during the past year. It was found that on the basis of the lowest tender the work was just twice the size that could be issued by the number of subscribers at a guinea (250). From its past experience your Executive was determined that on no account whatever should any publication be launched which might result in the Union being in financial straits. Fortunately, the Union's publishers came forward with an offer to take over the responsibility of the work, issue a two-volume edition to each subscriber, and pay the Union the sum of £40 for the copyright. After carefully considering the matter, and ascertaining whether better terms could be obtained elsewhere, the Executive gratefully accepted Messrs. Brown's offer.

“ MISCELLANEOUS VOLUME, PART 2. Towards this we have in hand MSS. of an appendix to the Flora of Dewsbury; the list of Fungi taken at Maltby; the Geological Bibliographies for 1902-1905, and a list of the members, and also the reprints of the Excursion Programmes for 1905, which are already printed off, and this report.

## SECTIONS.

The President and Secretary of the Union are ex-officio Members of all the Sections and Committees.

**Vertebrate Section.**—Mr. R. Fortune writes :—There is nothing very special to report. The meetings have not been well attended, and we hope that during the 1906 season, all the members of this section will do their best to attend the excursions.

“ BIRDS OF YORKSHIRE.”—Mr. Nelson has now completed his labors in connection with this work, and satisfactory arrangements having been made for publishing the book, the work is being proceeded with.

The following were elected for 1906 :—

President—T. H. Nelson, Redcar.

Secretaries—H. B. Booth, Bradford; R. Fortune, Harrogate;  
A. White, Leeds.

Representative on Executive—R. Fortune.

Representative on Committee of Suggestions—A. White.

**Entomological Section, 1905.**—Mr. William Hewett and Mr. Arthur Whittaker report that the season on the whole may be considered as having been a satisfactory one from an Entomological standpoint. Two new species, *Acidalia emutaria* and *Euchromia mygindana*, have been added to the county list. Good work has been done in many districts, and very many interesting and local species have been obtained, whilst it is evident that “Melanism” is still on the increase, the latest species to show this phase of development being *Agrotis agathina* from near Penistone, obtained by Mr. Morley of Skelmanthorpe. The causes of the relative abundance or scarcity of different species from year to year, and the gradual extension or diminution of their areas of distribution are alike interesting subjects for the consideration of, and if possible, solution by all enthusiastic and intelligent Entomologists. Details of the various captures, &c., will appear in the “Naturalist” shortly.



The following were elected for 1906:—

President—L. S. Brady, Sheffield.

Secretaries—W. Hewett, York; A. Whitaker, Barnsley.

Representative on Executive—W. Hewett.

Representatives on Committee of Suggestions—G. T. Porritt and W. Hewett.

**Conchological Section.**—Mr. T. Castle writes:—Fairly good results have been made at the Union meetings during the past year, although the dryness of the excursion season has had its influence upon land mollusca. Progress has, however, been made, as the various reports in the "Naturalist" show. A brief summary of the work is appended. Continued and increasing interest in this branch of the Union's work is also manifest.

Mr. J. E. Crowther recorded six slugs, twenty-two land and eight fresh-water species at Ripon on May 6th, including an exceptional find of *Vitrea rogersi*, and the occurrence of some species in abundance, notably *Anadonta cygnea*, in the Skell below the lake at Studley, and *Unio pictorum*, *Bythinia tentaculata*, and *Sphaerium corneum*, in the bed of the lake; but the full list of the fresh-water species named on the circulars was not reached owing to the lack of opportunities on the excursion, a full report of which was given in the June issue of the "Naturalist."

**ASKRIGG.**—The section was represented on this excursion by Mr. T. Castle, who enumerated three slugs, twenty land and six fresh-water species, but, owing to several weeks' continued drought previous to our arrival at Askrigg, the land mollusca had suffered considerably. *Helix lapicida* was especially noticeable on the Leyburn Road near Nappa Hall, a limited stretch of old wall yielding large numbers; but some disappointment was met with at Semmerwater by the scarcity of species, only six being recorded, one of the commonest kind elsewhere, viz., *Limnea peregra*, being represented by only one specimen, and several other kinds were absent from the streams in other parts of the district.

**LOFTUS.**—On account of the unavoidable absence of the Secretaries no report was made respecting the excursion, but, judging from the Union circular, conchologists present ought to have had good results.

**POCKLINGTON.**—The Rev. F. H. Woods reported nine species of land and five fresh-water shells in the September issue of the "Naturalist" as having been recorded on this excursion, including several interesting varieties.

**BARNSELY.**—On this excursion Mr. J. E. Crowther reported that conchologically the meeting was not a complete success on account of the unsuitability of the ground traversed, although

two slugs and three land- and fourteen fresh-water species of shells were noted, the canal especially proving a good sphere of operations and rich in species not common everywhere. One species, *Arion minimus*, had not been previously recorded for the Barnsley district.

Mr. F. Booth reported the occurrence of *Sphaerium pallidum* at Salterhebble on March 11th.

The following were elected for 1906:—

President—W. Denison Roebuck, Leeds.

Secretaries—J. E. Crowther, Elland; T. Castle, Heckmondwike.

Representative on Executive—J. E. Crowther.

Representative on Committee of Suggestions—J. W. Taylor.

**Botanical Section.**—Mr. J. F. Robinson writes:—Notwithstanding the opening out of new lines in the Botanical field, it is pleasing to note that there seems no diminution of interest in the older “floristic” work. On the contrary, the now prompt and excellent reports of the Union’s Field Meetings seem to show that systematic botany is receiving increased attention in these days, new names of active botanists frequently coming to the front in this respect. This is evidenced by reference to the reports just referred to, and to some of us of the older school very pleasant associations were awakened at the sight of the lists of flowering plants seen at, and near Fountains Abbey (Y.N.U. at Ripon); Semmerwater (Y.N.U. at Askrigg); and Kilton Woods (Y.N.U. at Loftus). It may be trespassing somewhat on the work of the new Botanical Survey Section, but one of the more interesting features of these lists to an older botanist is the fact that, had the names of the several districts been withheld, each of the latter could almost be identified by observation alone of the grouping of the plants in the lists.

We are glad to note that the disposition to observe and note, rather than to remove or extirpate, is growing, and in view of this one is glad to see confirmation of several old and interesting records as still “at home” in their former stations.

The botanical work in the affiliated Societies goes on unabated as heretofore. If no new or rare plants have been discovered during the past year, still, several new localities of less common ones have been made out, and must go down to the credit of the local Societies and their members or associated private workers. Thus *Aquilegia vulgaris* (Columbine) is new for Langstrothdale (*vide* “Naturalist,” April, 1905, page 117). *Spergularia rubra* has a position, near Sheffield, at a higher elevation (above 500 feet) than has been previously noted;

*Astragalus danicus* Retz. (vel. *A. hypoglottis* Linn.), nowhere common in Yorkshire, has had a new station added to the Flora of the East Riding, namely, at Garton-on-the-Wolds. *Serratula tinctoria* Linn., hitherto meagrely recorded for V.C. 63, was found in fair abundance near Bentley, Doncaster. *Rosa spinosissima* is now recorded from the wolds, whilst *Leonurus Cardiaca*, only a "denizen," of course, is nevertheless, new to the East Riding at Barlby, and finally it may be mentioned that there seems to have come upon us a sort of fresh orchid hunting fervour, if one may judge from the several new localities discovered during the past and previous years, for that tiny and seldom seen member of the order—*Malaxis paludosa*.

Who can cry "finality" in any department of botanical science?

Only one suggestion have the Secretaries of the phanerogamic section to make, and that is with reference to the more thorough study of "critical" species for which there is such fine opportunities in the area dominated by the Y.N.U. Valuable increase to our knowledge of plants and their history might accrue from fresh application to this branch. At all events it might tend to clear up one's views of the word "species," and settle for good whether this is not altogether too artificial and arbitrary a term to be used, at least in plant natural history.

The following were elected for 1906.—

President—W. G. Smith, Ph.D., Leeds.

Secretaries—H. H. Corbett, Doncaster; J. F. Robinson, Hull.

Representative on Executive—P. Fox Lee.

Representative on Committee of Suggestions—S. Margerison.

**Geological Section.**—Mr. Cosmo Johns, F.G.S., writes: The various excursions of the Union were well attended by members of the Geological section, and with the exception of that at Ripon, one or more sectional officers were always present. As a detailed report of the work done at each excursion appeared in the following number of the "Naturalist," it will not be necessary here to do more than indicate its bearing on that to be attempted during the coming season. To be effective, the work done should be capable of co-ordination and of being worked up later into something more valuable than mere scattered notes. To this end the sectional work should always have in view one or more of the problems bearing on the life history of the rocks of Yorkshire. For instance at Askrigg we were confronted with the unsolved problem of connecting the Carboniferous rocks north of the Craven Faults with those to the south, and to determine the age and sequence of the earth movements that produced the great

difference in the two areas, the line of the Craven Faults being taken as the critical region. It is a problem that Yorkshire geologists must face, and solve if possible. At Loftus it was the famous Cleveland Ironstone that demanded attention, though in a district so full of geological interest it was only one among many other interesting features. It had this difference, however, that from its immense economic value to the county, it calls for every effort to elucidate its genesis and extent. The strong recommendation from the meeting that an effort should be made during the next season to devote the necessary time for a thorough investigation of this most important deposit, will, it is hoped, receive the sympathetic consideration of the Union. At Pocklington, the oft debated question as to the occurrence of *true* Rhaetic beds there was taken up again, and though as much time as could be spared was given to the investigation, with the conclusion that the question must be answered in the negative, it is not pretended that the problem has been definitely solved, and the next time the Union visits the district, steps should be taken to open out a clear section and decide, once for all, the part played by the Market Weighton Axis, when the Liassic sea spread over the land. These are a few only, of the many problems that came under the consideration of the section during the year. They serve to indicate that there remains much to do. Work that will require patient and systematic investigation for many years before definite conclusions can be arrived at. To that end special attention should be given at future excursions to the most pressing problems in each district visited.

The following were elected for 1906:—

President—Cosmo Johns, Sheffield.

Secretaries—A. J. Stather, Hull; E. Hawkesworth, Leeds.

Representative on Executive—Godfrey Bingley.

Representative on Committee of Suggestions—Prof. Kendall.

### COMMITTEES.

The Yorkshire Micro-Zoology and Micro-Botany Committee.—Mr. R. H. Philip writes that good work has been accomplished in this Section during the year, details of which are too long for this report, and appear in the "Naturalist" for January, 1906.

The following were elected for 1906:—

Chairman—M. H. Stiles, Doncaster.

Convener—R. H. Philip, Hull.

Representative on Executive—H. Moore, Rotherham.

Representative on Committee of Suggestions—W. West, Bradford.



Other Members—J. N. Coombe, Sheffield; Prof. A. Denny, Sheffield; F. W. Mills, Huddersfield; Dr. H. C. Sorby, Sheffield.

**Yorkshire Coleoptera Committee.**—Mr. M. L. Thompson writes that members of the Committee attended the meetings of the Union at Ripon, Askrigg, Loftus, and Cudworth. At Ripon fifty-four species of coleoptera were met with along the route to Studley and through the grounds of Fountains Abbey, including *Phyllotreta tetrastigma*, an insect new to the county. Forty-two beetles were taken at Askrigg and on the shore of the Semmerwater, amongst them being the brilliant *Chlœnius nigricornis* and the local *Caliodes geranii*. Of the thirty-two species met with at the Loftus meeting the most interesting was *Dorytomus pectoralis*.

A number of very interesting and uncommon insects belonging to this order have been taken by individual members working in various localities. These include *Stenolophus elegans* at Thorne Moor; *Hygronoma dimidiata*, *Clytus mysticus*, *Atactogenus exaratus*, *Trachyphloeus aristatus*, &c., from the Doncaster District; *Homalota elegantula*, *Phytosus balticus*, *Salpingus ater*, *Ilybius fenestratus* at Saltburn; and *Coccidula scutellata* at Barnsley.

It is proposed to publish in the "Naturalist" an account of observations on Yorkshire coleoptera made during the last two years; and it is hoped that notes on the subject will be sent to the Secretary as early as possible to enable this to be done.

The Committee was re-appointed as follows :—

Chairman—M. L. Thompson, Saltburn.

Convener—E. G. Bayford, Barnsley.

Representative on Executive—H. Ostheide.

Representative on Committee of Suggestions—

Other members—J. W. Carter, Bradford; H. H. Corbett, Doncaster; W. Foggitt, J.P., Thirsk; John Gardner, Hartlepool; Rev. W. C. Hey, M.A., West Ayton; H. Ostheide, Leeds; W. Denison Roebuck, Leeds; and W. E. Morse, Leeds.

**Boulder Committee.**—The members of this Committee appear to have kept the object of the Committee's work before them during the past year, notwithstanding the fact that cataloguing of the larger boulders of the county appears to have been fairly well done. The East Riding Boulder Committee has also continued its investigations, particularly as regards the arrangement and proportions of various boulders and pebbles in the different horizons in drift deposits. Details of these investigations, which are not completed, will be published later. Mr. M. Ling records

a boulder of Skiddaw Chistalite Slate from Withernsea. Dr. F. F. Walton records a Belemnite of the *mucronata* type from Aldborough, the alveolar cavity of which is filled with black flint. At Atwick, Mr. J. W. Stather has measured the largest boulder of Carboniferous Limestone yet found in the district. Its dimensions are  $9' \times 5' \times x$ . Mr. T. Sheppard records recent "finds" of portions of mammoth tusk at Easington and Aldborough, and a very fine tooth of the same species from Withernsea.

The following were elected for 1906 :—

Chairman—Prof. P. F. Kendall.

Convener—J. H. Howarth, J.P., Halifax.

Representative on Executive—E. Hawkesworth, Leeds.

Representative on Committee of Suggestions—Prof. Kendall.

Other Members—Rev. W. Lower Carter, M.A., Hopton ; Rev. E. M. Cole, M.A., Wetwang ; H. H. Corbett, Doncaster ; W. Gregson, Baldersby ; E. Hawkesworth, Leeds ; W. Horne, Leyburn ; R. Law, Hipperholme ; W. Simpson, Settle ; J. W. Stather, Hull ; F. F. Walton, Hull ; H. Brantwood Muff, London ; J. E. Wilson, Ilkley ; Cosmo Johns, Sheffield ; L. Glauert, Sheffield ; H. Culpin, Doncaster.

**Yorkshire Bryological Committee.**—Mr. W. Ingham, B.A., writes :—The year 1905 has been a very successful one for Mosses and Hepatics.

The excursions to Ripon, Askrigg, and Pocklington were attended by members of this Committee, and detailed reports have appeared in the "Naturalist."

The most noteworthy plants discovered during the year are as follows :—*Lophozia inflata* var. *compacta* Nees on a mass of millstone grit in Shipley Glen, Bradford, 13th February, 1905, and var. *laxa* Nees on the moors between Buckden and Arncliffe. *Aplozia Goulardi* (Husnot) near Falling Foss, Robin Hood's Bay, a Hepatic new to the British Isles, and found by me on 16th Sept., 1905. *Pedinophyllum interruptum* var. *pyrenaicum* (Spruce), on rock ledges by Redmire Fall in Wensleydale, June 1905. This habitat and the one at Malham in 1857 by Carrington are the only records for "*pyrenaicum*" in the British Isles. Of mosses, *Hypnum vernicosum* is plentiful among the Globe Flowers and Bird's-Eye Primroses at the side of Semmerwater, and is worthy of record as a *definite* locality for a rare and obscurely understood moss.

In the June "Naturalist," an important new variety of Hepatic was described and illustrated.

The following were elected for 1906 :—

Chairman—M. B. Slater, Malton.

Convener—J. J. Marshall, Beverley.

Representative on Executive Committee—W. Ingham, York.

Representative on Committee of Suggestions—W. Ingham.

Other Members—R. Barnes, Harrogate ; Dr. R. Braithwaite, London ; L. J. Cocks, London ; C. Crossland, Halifax ; and W. West, Bradford ; C. A. Cheetham, Armley.

**Mycological Committees.**—Mr. C. Crossland reports :—Mycological work has again been steadily pursued throughout the year. The results have been most satisfactory, and have, from time to time, been published in the "Naturalist." The paper on the "Fungus Flora of a Cast-out Hearthrug," by Mr. Needham and myself, read at the Rokeby Foray, was printed in the Dec., 1904, issue. Mr. Hollands' paper (III.) on "Economic Fungi," read at the same foray, appeared in March and April, 1905. In the May number Mr. Gibbs recorded one new Yorkshire and one new British species. The June number contained notes on three new Yorkshire species, by Mr. W. N. Cheesman ; on one new to North East Yorkshire, by Mr. W. Ingham ; and on two new to Britain found at Masham, by Mr. W. A. Thwaites. A note on a new Yorkshire mould appeared in August.

The writer has attended four of the Union excursions. At Pocklington, *Hebeloma subsaponaceum* Karst., new to Britain, was found, and at Cudworth a *Cantharellus*, not yet determined.

The Annual Fungus Foray, held this year in the Roche Abbey district, was in every way a decided success ; a full report appears in the "Naturalist" for Nov. and Dec. The list of species found is held over for the "Transactions." Mr. Holland's fourth paper on "Economic Fungi" was read at this meeting, concluding a most valuable series on that side of the subject.

Everywhere there has been a most prolific crop of fungi this season : they have been abundant both in field and woodland. While out near Huddersfield with Mr. A. Clarke in Sept., an old woodside pasture, of about two acres, was overhauled, and yielded no less than thirty species. Many uncommon things have been met with by individual effort ; in Oct. Mr. Thos. Hebden found *Pholiota heteroclita* near Wilsden, and the remarkable *Cortinarius triumphans* near Cullingworth ; and Mr. Warnes *Hypholoma leucotephrum* near Withernsea, all new Yorkshire species. Several others have been found, and are being published in the "Naturalist."

During the year the "Yorkshire Fungus Flora" has been issued, the publication of which has established a foundation whereon further research in the same direction can be based.

The following were elected for 1906 :—

Chairman—Mr. G. Masee.

Convener—Mr. C. Crossland.

Representative on Executive—Mr. C. Crossland.

Other Members—Rev. W. Fowler, Liversedge; Harold Wager, F.R.S., Leeds; Alfred Clarke, Huddersfield; W. N. Cheesman, Selby; Thos. Gibbs, Wirksworth; J. W. H. Johnson, Dewsbury; J. W. Sutcliffe, Halifax; C. H. Broadhead, Thongsbridge.

**Fossil Flora and Fauna of the Carboniferous Rocks Committee.**—Mr. Kidston writes that during the past year the work of the Committee has been carried on, and some additions have been made to the Carboniferous Flora, particulars of which will be published later. The work of this Committee (formerly known as the Yorkshire Fossil Flora Committee) has been extended, so as to include the investigation of the mollusca, &c., of the Carboniferous Rocks.

The following were elected for 1906 :—

Chairman and Convener—R. Kidston, F.R.S., Stirling.

Representative on Executive and on Committee of Suggestions—J. E. Wilson, Ilkley.

Other Members—Robert Law, Hipperholme; W. West, Bradford; C. Bradshaw, Sheffield; P. F. Kendall, Leeds; Cosmo Johns, Sheffield; G. Grace, Doncaster; H. Culpin, Doncaster; S. Nettleton, Ossett; E. E. Gregory, Bingley; A. Jordan, Doncaster; L. Glauert, Sheffield; Wheelton Hind, Stoke-on-Trent; Walcot Gibson, London.

**Geological Photographs Committee.**—Mr. A. J. Stather, the Secretary, reports that an excellent year's work has been accomplished by this Committee, about eighty photographs having been added to the Union's Collection, particulars of which appear in the January "Naturalist."

The following were elected for 1906 :—

Chairman—Prof. P. F. Kendall, Leeds.

Convener—A. J. Stather, Hull.

Representative on Executive—Rev. W. Lower Carter, Hopton.

Representative on Committee of Suggestions—Godfrey Bingley, Leeds.

Other Members—J. J. Burton, Nunthorpe; H. H. Corbett, Doncaster.

**Coast Erosion Committee.**—During the year the erosion of the East Coast has been excessively severe. The exceptionally high tides of September and October last played great havoc in



different parts, and flooded the land near Kilnsea, as described by Mr. W. H. Wheeler in the November "Naturalist." A photographic record of some of the effects of the denudation of the East Coast has been made by the members of the Geological Photographs Committee.

The following were elected for 1906 :—

Chairman—Rev. E. M. Cole, M.A., Wetwang.

Convener, and Representative on Executive and on Committee of Suggestions—F. F. Walton, Hull.

Other Members—P. W. Loten, Easington; J. T. Sewell, Whitby; J. W. Stather, Hull; W. Y. Veitch, Middlesborough; E. R. Matthews, Bridlington; J. J. Burton, Nunthorpe.

### Yorkshire Marine Biology Committee.—

(No Report received).

The following were elected for 1906 :—

Chairman—Dr. H. C. Sorby, F.R.S., Sheffield.

Convener—J. D. Butterell, Wansford, Hull.

Representative on Executive—E. Howarth, Sheffield.

Other Members—Rev. W. C. Hey, M.A., West Ayton; Geo. Masee, Kew; T. H. Nelson, Redcar; S. Lister Petty, Ulverston; J. Fraser Robinson, Hull; F. W. Fierke, Hull; W. Denison Roebuck, Leeds; Rev. Henry Smith, M.A., Redcar; and Arnold T. Watson, Sheffield.

### Wild Birds' and Eggs' Protection Committee.—

Mr. R. Fortune writes :—The members of this section are to be congratulated upon the fact that the County Councils of Yorkshire have, with only one or two minor alterations, adopted the suggestion of the Union for the better protection of birds and their eggs in the county. The full schedule is published in the December "Naturalist."

We should like to appeal to all Yorkshire ornithologists to aid the authorities with all their power, to see that the provisions of the Act are carried out, and specially would we ask that the following species, be accorded special protection. They are all in imminent danger of being exterminated as species nesting in the county :—Peregrine Falcon, Common Buzzard, Raven, Stone Curlew, and Great Crested Grebe.

The following were elected for 1906 :—

Chairman—T. H. Nelson, Redcar.

Convener—R. Fortune, Harrogate.

Representative on Executive and on Committee of Suggestions—  
H. B. Booth, Bradford.

Other Members—F. Boyes, Beverley ; T. Bunker, Goole ; H. E. Dresser, London ; Jno. Gerrard, Manchester ; Rev. E. Ponsonby Knubley, M.A., Steeple Ashton, Wilts. ; Claude Leatham, Wakefield ; Geo. T. Porritt, Huddersfield ; W. H. St. Quintin, J.P., Rillington ; Rev W. T. Travis, M.A., Ripley ; K. McLean, Harrogate ; W. H. Parkin, Shipley ; and A. White, Leeds.

**Yorkshire Botanical Survey Committee.**—The Convener (Dr. W. G. Smith), reports :—“ This Committee has been represented at most of the excursions, and progress has been made in the collection of information on the distribution of plants in Yorkshire. At the Askrigg Meeting an experiment was made in organising parties to supplement the observations of the main party for each day. Almost every botanist present contributed something either to the map survey, or in the preparation of lists ; all the material was handed over to Mr. Hartshorn (Leyburn), who has undertaken the vegetation survey of Wensleydale district. The chief results were given in the “ Naturalist ” for July. Loftus was less fruitful because so few botanists were able to remain over the week-end (see “ Naturalist,” August, 1905). At Pocklington, Mr. Crossland made a valuable set of observations, which were communicated to me, and appeared in the “ Naturalist ” (November, 1905, p. 348). The growing interest in this side of Botany is indicated by the papers which appear in the “ Naturalist ” almost monthly. Mr. Woodhead’s absence in Switzerland has reduced our working capacity, but his return from one of the great centres of activity will throw new energy into the work. The scarcity of botanists at the excursions hampers us somewhat, and it is to be hoped that next year we shall find more of them ready for survey work ; the younger workers will find much requiring to be done.”

The following were elected for 1906 :—

Chairman—John Farrah, Harrogate.

Convener and Representative on Executive and Committee of Suggestions—Dr. W. G. Smith, Leeds.

Other Members—C. E. Moss, Manchester ; J. F. Robinson, Hull ; C. Waterfall, Hull ; T. W. Woodhead, Huddersfield ; W. B. Crump, Halifax ; H. H. Corbett, Doncaster ; J. Hartshorn, Leyburn ; J. W. H. Johnson, Thornhill ; and W. E. L. Wattam, Huddersfield.

**Committee of Suggestions for Research.**—Dr. W. G. Smith writes :—At the Askrigg meeting, Mr. Cosmo Johns introduced the question of maps and records as a subject for this Committee ; his paper appeared in the “ Naturalist ” (Sept. 1905). Mr. Alfred Harker (“ Naturalist,” Nov. 1905) contributed further

to the subject. Other papers will probably appear soon. The Committee has an excellent opportunity of drawing up a system for the preparation of local maps for use in recording features of natural history. The investigation of peat deposits has not yet been systematically undertaken, and the attention of members is again drawn to the plan of work (see "Naturalist," May 1904). Recently great progress has been made in the investigation of peat-mosses in Scotland (see Lewis, *Trans. Roy. Soc. Edin.*, 1905), and this is a model of what can be done by systematic methods. We are glad to be able to state that an investigation on peat is in progress in the West Riding.

The following were elected for 1906 :—

Chairman—Prof. P. F. Kendall, Leeds.

Convener—Dr. W. G. Smith, Leeds.

Representative on Executive—P. F. Kendall.

Representatives of Committees and Sections—A. White, Leeds ; G. T. Porritt, Huddersfield ; W. Hewett, York ; J. W. Taylor, Leeds ; J. F. Robinson, Hull ; W. West, Bradford ; W. Ingham, York ; J. E. Wilson, Ilkley ; Godfrey Bingley, Leeds ; F. F. Walton, Hull ; K. McLean, Harrogate.

**Soppitt Memorial.**—In the absence of Mr. Woodhead, we learn from Mr. S. L. Mosley of the Huddersfield Museum, that the Soppitt Library has been extensively consulted by members of the Union during the year. The portrait of Mr. Soppitt, formerly in the rooms of the Bradford Naturalist's Society, has recently been received at Huddersfield, where the remainder of the Soppitt Collection is housed.

The Committee consists of Messrs. C. Crossland, G. T. Porritt, and W. West (Trustees), with Mr. T. W. Woodhead as librarian.

**British Association.**—The Hon. Secretary was appointed by the executive to attend the meeting of the delegates of the Corresponding Societies of the British Association, which was held at Burlington House on October 30th and 31st. Amongst the matters discussed were : the Value of Excursions to Natural History and Societies, the Law of Copyright, the Law of Treasure Trove, &c., all of which were of value. The delegates were also conducted round the Museum of the Royal College of Surgeons, and were entertained in other ways.

Mr. Sheppard was appointed as delegate to represent the Union at the forthcoming meeting at York.

The "Naturalist" has been in the hands of subscribers punctually at the beginning of each month, and by them heartily welcomed. That it maintains its stand as a long way the leading Natural History Journal in the North of England goes without saying; and its permanent excellence alike as to matter, plates and other illustrations seems to be now well assured. In Mr. Woodhead's absence from England, the work in connection with the Journal has naturally fallen almost entirely on his colleague, and the thanks of the Union are due to Mr. Sheppard for the extra labour it must have entailed to keep up so high a standard of merit.

The Presidency for 1906 has been offered to and accepted by Mr. W. Eagle Clarke, F.R.S.E., F.L.S., of the Royal Scottish Museum, Edinburgh.

**The Financial Position of the Union.**—The finances for the year are not quite so satisfactory. The general account of receipts and payments, including the "Naturalist," shows a loss on the year of £31 13s. 11d. The expenses have been higher in the items of transactions and publications. In addition to this, £31 is owing to the Secretary for clerical assistance, making a total of £62 13s. 11d., of which sum £43 18s. 4d. belongs to the "Naturalist," and represents the year's loss on it. The loss on the "Naturalist," which last year was £19 18s. 11d., has been increased to £43 18s. 4d., but the subscriptions in arrears are £10 more than last year, so that relatively the loss is £33 against £19 last year. The income from subscriptions is the same, and receipts from advertisements are £15 less. The arrangement with Messrs. Brown & Sons will relieve the Union of further risk of loss on the "Naturalist," which is now a very satisfactory publication, and will no doubt become a good property. The general Balance Sheet of assets and liabilities shows an adverse balance against the Union of £21 18s. 5d. Subscriptions are £71 in arrears compared with only £57 last year. There is £60 8s. 5d. owing to the Hon. Treasurer in addition to the Hon. Secretary's claim for clerical assistance.

**The Secretaryship.**—The Hon. Secretary complains of the amount of clerical work that is involved—much of which would be unnecessary if members would send their subscriptions, &c., promptly. Your executive feel that it only requires the attention of the members called to the matter in order to have the desired effect.



The following is the Hon. Treasurer's Statement of Receipts and Payments during the 13 months ending December 31st, 1905:—

## YORKSHIRE NATURALISTS' UNION.

### RECEIPTS AND PAYMENTS ACCOUNT,

*13 months ending 31st Dec., 1905.*

**RECEIPTS.**

|                                      | £    | s. | d.       |
|--------------------------------------|------|----|----------|
| Bank Interest .....                  |      |    | 0 4 1    |
| Levies paid by Associated Societies— |      |    |          |
| Arrears .....                        | 1    | 19 | 8        |
| 1905 .....                           | 7    | 1  | 10       |
|                                      |      |    | 9 1 6    |
| Subscriptions paid by Members—       |      |    |          |
| Arrears .....                        | 9    | 6  | 6        |
| 1905 (including one Life Member) ... | 102  | 15 | 0        |
| 1906 .....                           | 2    | 0  | 6        |
|                                      |      |    | 114 2 0  |
| Sales of Publications—               |      |    |          |
| Lees' Flora of West Yorkshire .....  | 2    | 2  | 8        |
| West's Alga Flora .....              | 1    | 3  | 0        |
| Crossland's Fungus Flora .....       | 1    | 17 | 7        |
| Porrirt's Lepidoptera...             | 8    | 10 | 8        |
|                                      |      |    | 13 13 11 |
| Transactions... ..                   |      |    | 1 15 9   |
| Birds of Yorkshire .....             |      |    | 1 1 0    |
| Contribution (G. T. Porrirt) .....   |      |    | 20 0 0   |
| "Naturalist" Receipts .....          | 164  | 8  | 3        |
| Balance .....                        | 31   | 13 | 11       |
|                                      | £356 | 0  | 5        |

**PAYMENTS.**

|  | £   | s. | d.      |
|--|-----|----|---------|
| Subscriptions to Commons and Footpaths' Preservation ..... |     |    | 0 13 6  |
| Expenses of Meetings .....                                 | 26  | 6  | 11      |
| Annual Reports .....                                       | 9   | 11 | 4       |
| Postages, Carriage, &c....                                 | 15  | 4  | 6       |
| Printing .....   | 23  | 5  | 5       |
| Life Members "Naturalists" sent...                         |     |    | 6 0 0   |
| Adverts. in "Naturalist" .....                             |     |    | 7 16 0  |
| Transactions .....   |     |    | 13 0 11 |
| Secretary's Assistance .....                               |     |    | 2 10 0  |
| Cost of Publications—                                      |     |    |         |
| Porrirt's Lepidoptera .....                                | 28  | 4  | 4       |
| Postage Circs. Fungus Flora .....                          | 8   | 17 | 0       |
| Sundry Items .....   | 1   | 7  | 5       |
|  |     |    | 38 8 9  |
| Sundry Expenses .....                                      |     |    | 4 19 6  |
| "Naturalist" Payments .....                                | 208 | 6  | 7       |

£356 0 5

## YORKSHIRE NATURALISTS' UNION.

*BALANCE SHEET as at 31st Dec., 1905.*

| <b>LIABILITIES.</b>                       |    |       | <b>ASSETS.</b> |                                  |            |
|---|----|-------|----------------|----------------------------------|------------|
|   | £  | s. d. |                | £                                | s. d.      |
| Subscriptions to "Birds of Yorkshire" ... | 4  | 4     | 0              | Subscriptions in Arrears—        |            |
| Subscriptions received in advance ...     | 6  | 18    | 6              | "Naturalist," previous to        | £ s. d.    |
| Amount due to Secretary for Clerical      |    |       |                | 1905 ...                         | 9 9 0      |
| Assistance for 13 months... ..            | 31 | 0     | 0              | Do., for 1905 ...                | 23 4 8     |
| Due to Hon. Treasurer ... ..              | 60 | 8     | 5              |                                  | 32 13 8    |
|   |    |       |                | General Account—                 |            |
|   |    |       |                | Previous to 1905 ... ..          | 12 3 0     |
|   |    |       |                | Do. for 1905 ... ..              | 26 13 1    |
|   |    |       |                |                                  | 38 16 1    |
|   |    |       |                | Amount owing to "Naturalist"—    |            |
|   |    |       |                | Reprints, &c. ... ..             | 0 13 0     |
|   |    |       |                | Trade Advertisements ...         | 2 5 0      |
|   |    |       |                |                                  | 2 18 0     |
|   |    |       |                | Amounts owing to Union—          |            |
|   |    |       |                | Lees' Flora of West York-        |            |
|   |    |       |                | shire ... ..                     | 0 12 0     |
|   |    |       |                | Amount due for Sale of           |            |
|   |    |       |                | Exchanges ... ..                 | 5 0 0      |
|   |    |       |                |                                  | 5 12 0     |
|   |    |       |                | Cash in Secretary's hands ... .. | 0 12 9     |
|   |    |       |                | Balance... ..                    | 21 18 5    |
|   |    |       |                |                                  | £102 10 11 |
|   |    |       |                |                                  | £102 10 11 |

## THE "NATURALIST."

*RECEIPTS AND PAYMENTS ACCOUNT,  
13 Months ending 31st Dec., 1905.*

| <b>RECEIPTS.</b>                  |     |       | <b>PAYMENTS.</b> |                         |          |
|-----------------------------------|-----|-------|------------------|-------------------------|----------|
|                                   | £   | s. d. |                  | £                       | s. d.    |
| Subscriptions received—           | £   | s. d. | £                | s. d.                   |          |
| Arrears ... ..                    | 6   | 12    | 6                | Payments in 1905 ... .. | 208 6 7  |
| 1905 ... ..                       | 102 | 8     | 6                |                         |          |
| 1906 ... ..                       | 4   | 18    | 0                |                         |          |
|                                   |     |       | 113              | 19                      | 0        |
| Sales—                            |     |       |                  |                         |          |
| "Naturalist" ... ..               | 18  | 8     | 3½               |                         |          |
| Reprints ... ..                   | 3   | 0     | 6                |                         |          |
| Binding Account, &c... ..         | 1   | 17    | 9½               |                         |          |
| Plates ... ..                     | 4   | 6     | 6                |                         |          |
|                                   |     |       | 27               | 13                      | 1        |
| Life Members debited to Union ... |     |       | 6                | 0                       | 0        |
| Advertisements—                   |     |       |                  |                         |          |
| Trade ... ..                      | 9   | 0     | 2                |                         |          |
| Union ... ..                      | 7   | 16    | 0                |                         |          |
|                                   |     |       | 16               | 16                      | 2        |
| Balance ... ..                    |     |       | 43               | 18                      | 4        |
|                                   |     |       | £208             | 6                       | 7        |
|                                   |     |       |                  |                         | £208 6 7 |

Audited and found correct.—R. H. PHILIP.

## LIST OF MEMBERS.

CORRECTED TO DECEMBER 31ST, 1905.

The Members whose names are printed in heavy type are **Permanent Members of the General Committee**. The dates preceding names are those of election; Original Members, being those elected previous to 1883 are marked —; those to whom **L.** is prefixed are Life Members, by virtue of a donation of not less than seven guineas; and those to whom **H.L.** is prefixed are Honorary Life Members.

Members changing their addresses are requested to inform the Secretary as soon as possible.

- 1905 .. Abbot, J., School House, Anlaby.  
 1903 .. Abbott, R. T. G., Whitley House, Norton, Malton,  
 1905 .. Ackroyd, J., 39, King Street, Heckmondwike.  
 1896 **L. Anderson, Tempest**, M.D., B.Sc., 17, Stonegate, York.  
 1903 .. Arnott, Joseph, Bay House, Headingley, Leeds.  
 — .. Arundel, H., Rozelle Cottage, Kilwinning, Ayrshire.  
 1894 .. **Ash**, Rev. C. D., M.A., Skipwith Vicarage, Selby.  
 1895 .. Ashton, J. T., M.B., Kingthorpe House, Pickering.  
 1896 .. Ashton, Mrs. J. T., Kingthorpe House, Pickering.  
 1897 .. **Audas, Thos.**, L.D.S., 46, Anlaby Road, Hull.  
 1895 .. **Bailey, Matthew**, Flamborough, Hull.  
 1895 .. **Bairstow, Uriah**, 48, Heath Crescent, Halifax,  
 1883 .. **Baker, J. G.**, F.R.S., 3, Cumberland Road, Kew, Surrey (Ex-President)  
 1896 .. Banks, Ernest, Cross Keys Inn, Adlingfleet, Goole.  
 1888 .. **Barnes, Richard**, Mayfield Grove, Franklin Road, Harrogate.  
 1897 .. Barraclough, William, Victoria St., Barnsley.  
 1893 .. **Barker, R. H.**, Grosvenor Bank, Scarborough.  
 1889 .. **Bayford, E. G.**, 2, Rockingham Street, Barnsley.  
 1893 .. Bean, Eugene, Stoneleigh, Scalby, R.S.O., Yorks.  
 — .. **Bedford, J. E.**, F.G.S., Arncliffe, Shireoaks Road, Headingley, Leeds.  
 1890 .. Bell, J. L., M.D., The White Hall, Driffild.  
 1884 .. **Bennett, S. H.**, Mountenoy Road, Rotherham.  
 1900 .. Benney, A. E., 3, Ambler Street, Manningham, Bradford.  
 1905 .. Benson, G., Nunthorpe Avenue, York.  
 1904 .. Bentinck, Rt. Hon. Lord, M.P., Underley Hall, Kirkby Lonsdale.  
 1885 .. **Bingley, Godfrey**, Thorniehurst, Shaw Lane, Headingley, Leeds,  
 — .. **Birks, Thomas**, Southdene, Eaglescliffe Junction, Yarm-on-Tees.  
 1903 .. Bisat, G. B., 30, Nether Hall Road, Doncaster.  
 1903 .. Blackburn, Rev. E. P., Wesley House, Dudley, Worcester.  
 1904 .. Booth, Rev. W., The Vicarage, Hook, near Goole.  
 1904 .. Booth, Mrs. L. H., Hook Vicarage, Goole.  
 1905 .. **Booth, H. B.**, M.B.O.U., Springroyd, Shipley.  
 — .. **Bould, C. H.**, 4, Welton Place, Hyde Park, Leeds.  
 — .. **Boyes, F.**, Yorkshire Bank, Beverley.  
 1894 .. Bradford Public Free Library, c/o Butler Wood, Librarian, Bradford.  
 1900 .. Bradley, A. E., Ringinglow, Shaftesbury Avenue, Roundhay, Leeds.  
 1904 .. Bradshaw, C., F.C.S., Museum, Weston Park, Sheffield.  
 1904 .. Brady, S. L., Endcliffe Croft, Sheffield.  
 1895 .. **Braithwaite, R.**, M.D., 26, Endymion Road, Brixton Hall, London,  
 S.W.  
 1885 .. **Branson, F. W.**, F.I.C., Wynneholme, Far Headingley, Leeds.  
 1904 .. Brierley, A. H., Galtres Edge, Stockton Lane, York.  
 — .. Brigg, John, M.P., F.G.S., Kildwick Hall, Keighley.

- 1884 .. **Brittain, F.**, J.P., Melbourne Avenue, Sheffield.  
 1892 .. Brittain, W. H., J.P., Storth Oaks, Ranmoor, Sheffield.  
 1900 .. **Broadhead, C. H.**, Wooldale, Thongsbridge, Huddersfield.  
 1885 .. Brooke, J. A., M.A., J.P., Fenay Hall, Huddersfield.  
 1887 .. Brooke, Ven. Archdeacon J. I., Sandal, Wakefield.  
 1903 .. Brown, J., Savile Street, Hull.  
 1904 **L.** Brown, J. B., Stalheim, Hebden Bridge.  
 1886 .. **Brownridge, Charles**, F.G.S., 26 North Road, Devonshire Park, Birkenhead.  
 1890 .. Buchanan, J. H., M.D., Sowerby, Thirsk.  
 — .. **Bunker, Thomas**, 9, East Parade, Goole.  
 1891 .. **Burton, J. J.**, Rosecroft, Nunthorpe, R.S.O., Yorkshire.  
 — .. **Butterell, J. D.**, The Manor House, Wansford, Hull.  
 — .. Butterfield, J. A., B.Sc., Comril, Eglington Hill, Plumstead, London, E.C.  
 1890 **L.** Carlisle, Rt. Hon. Earl of, Castle Howard, York.  
 1895 .. **Carlton, J.**, 48, Albany Street, Hull.  
 1891 **L.** Carpenter, Hon. Mrs. B., Kiplin, Northallerton.  
 1903 .. **Carr, Prof. J. W.**, M.A., F.L.S., University College, Nottingham.  
 — .. **Carter, J. W.**, F.E.S., 28, Mannheim Road, Manningham, Bradford.  
 1890 .. **Carter, Rev. W. Lower**, M.A., F.G.S., Hopton, Mirfield.  
 1887 .. **Cash, William**, F.G.S., 26, Mayfield Terrace, Halifax.  
 1904 .. Castle, Thomas, Spring Cottage, Norrithorpe Lane, Heckmonwike.  
 1905 .. Catterall, W. H. Rokeby School, Barnard Castle.  
 1891 **L.** Champney, J. E., J.P., 27, Hans Place, London, S.W.  
 1890 **L.** Charlesworth, J. B., J.P., The Ashe, Etwall, Derby.  
 — **L.** **Cheeseman, W. N.**, F.L.S., The Crescent, Selby.  
 1905 .. Cheetham, C.A., 8, Springfield Mount, Armley, Leeds.  
 1898 .. **Chorley, Mrs. Harry**, F.E.S., Woodhead, Burley-in-Wharfedale.  
 — .. **Clark, J. E.**, B.A., B.Sc., Asgarth, Riddlesdown Road, Purley, Surrey.  
 1892 .. **Clarke, Alfred**, 9, St. Andrew's Road, Huddersfield.  
 — .. Clarke, W. Eagle, F.L.S., 35, Braid Road, Edinburgh.  
 1892 **L.** Clarke, W. J., 44, Huntriss Row, Scarborough.  
 1894 .. Clayton, John, Lidgett Avenue, Wharnccliffe Silkstone, Barnsley.  
 1896 .. **Cocks, L. J.**, Rose Bank, Bromley Hill, Kent.  
 1903 .. Cole, T. S., Endcliffe Crescent, Sheffield.  
 — .. **Cole, Rev. E. Maule**, M.A., F.G.S., Wetwang Vicarage, York.  
 — .. Colby, G., Brawby Park, Pickering.  
 1891 **L.** Cooke, J. S., J.P., F.R.A.S., Springfield, Gomersal, Leeds.  
 1893 .. **Coombe, J. N.**, Brocco Park, Sheffield.  
 1890 .. **Corbett, H. H.**, M.R.C.S., 9, Priory Place, Doncaster.  
 1896 .. **Crabtree, Arthur**, F.L.S., Merlewood, Halifax.  
 1903 .. Croft, E. O., M.D., 28, Hyde Terrace, Leeds.  
 1895 .. Crosland, R. W., Oldfieldnook, Cleckheaton.  
 1887 .. **Crossland, Charles**, F.L.S., 4, Coleridge Street, Halifax.  
 1904 .. Crowther, J., Ridley House, Grassington.  
 1896 .. **Crowther, J. E.**, Portland Street, Eland.  
 1894 .. **Crump, W. B.**, M.A., 39, Akeds Road, Halifax.  
 1903 .. Culpin, H., 36, Nether Hall Road, Doncaster.  
 1885 **H.L.** **Dallinger, Rev. W. H.**, LL.D., Ingleside, Newstead Road, Lee, London, S.E. (Ex-President).  
 1898 .. Darley, Rev. Bertram, Harthill Rectory, Sheffield.  
 1896 **H.L.** **Dawkins, Prof. W. B.**, M.A., F.R.S., Owens College, Manchester (Ex-President).  
 1883 .. Dawson, Percival W., Etherington House, Newland, Hull.  
 1906 .. Denison, Abnar, Market Street, Milnsbridge.  
 1894 .. Dennis, Thomas, 21, Peel Street, Hull.  
 1885 .. **Denny, Prof. Alfred**, F.L.S., 61, Ranmoor Crescent, Sheffield.  
 1903 **L.** Dent, Major J. W., Ribston Hall, Wetherby.  
 1899 .. Dewhirst, Algernon, Aireville, Skipton,



- .. **Dobrée, N. F.**, F.E.S., The New Walk, Beverley.
- 1904 .. Dowse, Capt., T. D., 8, Arlington Street, Hull.
- 1889 **H.L. Dresser, H. E.**, F.L.S., 110, Cannon Street, London, E.C. (Ex-President).
- 1906 .. Dwerryhouse, A. R., D.Sc., F.G.S., Oakfield Terrace, Headingley, Leeds.
- 1905 .. Eddrup, T.B., M.A., Horbury Vicarage, Wakefield.
- .. **Eddy, J. R.**, F.G.S., The Grange, Carleton, Skipton.
- 1898 .. Eden, Hon. Miss Agnes, Larkfield, Ramshill, Bawtry.
- 1901 .. Edmondson, Prof. T. W., M.A. New York University, University Heights, New York, U.S.A.
- 1904 .. Edwards, Rev. J. R. W., M.A., The Grammar School, Leeds.
- 1905 .. Elgee, F., 23, Kensington Road, Middlesbro.
- 1893 .. Elmhirst, C. E., 17, Mount Parade, York.
- 1897 .. Emerson, E. B., M.A., J.P., Tollesby Hall, Marton, R.S.O., Yorkshire.
- 1905 .. Erskine, A. M., M.D., Medical Officer of Health, Goole.
- 1887 .. **Farrah, John**, F.L.S., Jeffries Coate, York Road, Harrogate.
- 1903 .. **Farrah, J. W.**, Jeffries Coate, York Road, Harrogate.
- 1892 .. **Fierke, F. W.**, 73, Redbourne Street, Hull.
- 1905 .. Firth, J. S., B.Sc., 56, Brocco Bank, Sheffield.
- 1888 .. Fitzwilliam, Hon. W. H. W., M.P., Wiganthorpe, York.
- 1894 .. Foggitt, J. B., 32, Scarisbrick New Road, Southport.
- 1897 .. Foggitt, T. J., Market Place, Thirsk.
- .. **Foggitt, William**, J.P., South Villa, Thirsk.
- 1905 .. Fordham, W. J., M.R.C.S., 132, St. Mary's Road, Sheffield.
- 1887 .. **Fortune, Riley**, F.Z.S., Lindisfarne, Dragon Road, Harrogate.
- 1899 **H.L. Foster, Sir Michael**, K.C.B., M.P., Nine Wells, Great Shelford, Cambridge (Ex-President).
- 1896 .. Foster, G., Castlestead, Boston Spa, R.S.O., Yorkshire.
- .. **Fowler**, Rev. **William**, M.A., Vicarage, Liversedge, Normanton.
- 1883 **L. Galloway**, Sir Ralph P., Bt., M.B.O.U., Thirkleby Park, Thirsk.
- 1885 .. **Gardner, John**, F.E.S., 8, Friar Terrace, Hartlepool.
- 1883 .. **Gaunt, Leonard**, Hazelbrae, Farsley, Leeds.
- 1886 .. Gaunt, Mrs. Leonard, Hazelbrae, Farsley, Leeds.
- 1887 .. **Gerrard, J.**, M.B.O.U., H.M. Inspector of Mines, Worsley, Manchester.
- 1898 .. **Gibbs, Thomas**, Bridge House, Wirksworth.
- 1904 .. Gibson, J., F.R.M.S., Elmfield, 192, Salter Lane, Sheffield.
- 1904 .. Glauert, L., F.G.S., 21, Kenwood Park Road, Sheffield.
- 1906 .. Godwin, Ald. J. Arthur, J.P., The Clock House, Bradford.
- 1905 .. Golledge, G. W., Rose Cottage, Hexthorpe, Doncaster.
- 1883 .. Gough, Rev. Thomas, B.Sc., F.G.S., King Edward VI. School, East Retford.
- 1905 .. Grace, G., Oak Mount, Lawn Road, Doncaster.
- 1894 .. Green, Upfield, F.G.S., 8, Bramskill Road, Harlesden, London, N.W.
- 1904 .. Greenwood, F., 22, Albert Street, Hebden Bridge.
- .. **Gregson, W.**, F.G.S., Gainford, Darlington.
- 1887 .. Haigh, G. H. Caton, M.B.O.U., Grainsby Hall, Great Grimsby.
- 1902 .. Haley, W. B., Hightown Heights, Liversedge.
- 1889 **L. Hall, A. E.**, F.E.S., Norbury, Pittsmoor, Sheffield.
- 1903 .. **Hall, J. E.**, The Flatts, Thirsk.
- 1890 .. Hallimond, H. T., Percy Cottage, Emerald Street, Saltburn-by-Sea.
- 1887 .. **Handley, John**, J.P., Briggflatts, Sedbergh, R.S.O., Yorkshire.
- .. **Harker, Alfred**, M.A., F.R.S., St. John's College, Cambridge.
- 1897 .. Hartshorn, J., Leyburn, R.S.O., Yorkshire.
- 1885 .. Harvie-Brown, J. A., F.R.S.E., Dunipace House, Larbert, N.B.
- 1891 .. **Hawkesworsh, Edwin**, Sunnyside, Crossgates, Leeds.
- .. Harrison, John, 7, Broomfield Terrace, Bagdale, Whitby.
- 1894 .. Hemingway, Wilson, Bank Top, Dewsbury.
- 1897 .. **Herdman, W.**, F.G.S., Hilton, Appleby, Westmoreland.

- .. Herries, Rt. Hon. Lord, Everingham Park, York.  
 — .. **Hewett, William**, 12, Howard Street, Fulford Road, York.  
 — **H.L. Hey**, Rev. **W. C.**, M.A., Derwent House, West Ayton, York.  
 1896 .. Hind, Rev. H. N., M.A., Hightown, Liversedge, Normanton.  
 1898 .. Hinton, Amos, Hilda House, Middlesborough.  
 1890 **L.** Hirst, Ben., J.P., Tamewater, Dobcross, Oldham,  
 1904 .. Hirst, W. H., Technical College, Huddersfield.  
 1889 .. Hodzman, G., 8, Feversham Terrace, York.  
 — **L. Holgate, Benj.**, F.G.S., The Briars, North Park Avenue, Roundhay, Leeds.  
 1902 .. Holland, J. H., F.L.S., 11, Marlborough Rd., Gunnersbury, Lond., W.  
 1895 .. Hollingworth, J., M.R.C.S., 2, Hornsea Parade, Holderness Road, Hull.  
 1883 .. Hopkinson, J., F.L.S., Weetwood, Watford, Herts.  
 1884 .. **Horne, William**, F.G.S., Market Place, Leyburn, R.S.O., Yorkshire.  
 1906 .. Howard, Thos., Oakroyd, Manningham, Bradford.  
 1889 .. **Howarth, E.**, F.Z.S., Hilbre Nest, Crookes Moor Road, Sheffield.  
 1891 .. **Howarth, J. H.**, J.P., F.G.S., Somerley, Rawson Avenue, Halifax.  
 1885 .. Huddart, Rev. G. A. W., M.A., LL.D., Kirklington Rectory, Bedale.  
 1884 .. **Hudleston, W. H.**, M.A., F.R.S., 8, Stanhope Gardens, London, S.W.  
 1892 .. Hudson, George, M.D., Westbourne House, Scarborough.  
 1902 .. Hunter, John, 17, Hollins Road, Harrogate.  
 1883 .. Hurst, J. S., J.P., Copt Hewick Hall, Ripon.  
 1904 .. Hutton, W. H., 44-46, Dial Street, Leeds.  
 1896 .. **Ingham, William**, B.A., 52, Haxby Road, York.  
 1905 .. Inman, Rev. J., Beacon Banks, Easingwold, Yorks.  
 1885 .. Irvin, Rev. B., M.A., The Vicarage, Saltburn-by-the-Sea.  
 1904 .. Irving, J., M.D., Inagh Mount, 13, Filey Road, Scarborough.  
 1890 .. Jackson, A. M., Victoria Chambers, Hull.  
 — .. **Jackson, J.**, M.P.S., High Street, Wetherby.  
 1904 .. Jackson, Miss M. R., Thearne Hall, near Beverley.  
 1904 .. **Johns, C.**, F.G.S., Burngrove, Pitsmoor Road, Sheffield.  
 1904 .. Johnson, J. W. H., B.Sc., York House, Thornhill, Dewsbury.  
 1899 .. **Jones, J. A.**, B.Sc., F.G.S., Reethville, Park Road, West Hartlepool.  
 1903 .. Jones, R. Fowler, 8, Lendal, York.  
 1903 .. Jordan, A., Claremont, Windsor Road, Doncaster.  
 1905 .. Jowett, T., Wilton Street, Bradford.  
 1892 .. **Kendall, Percy F.**, F.G.S., 5, Woodland Terrace, Stainbeck Lane, Leeds.  
 1888 .. **Kidston, Robert**, F.R.S., 12, Clarendon Place, Stirling.  
 1890 **L.** Kitson, Sir James, Bart., M.P., Gledhow Hall, Leeds.  
 — **L. Knubley**, Rev. **E. P.**, M.A., Steeple Ashton Rectory, Trowbridge, Wilts.  
 1904 .. Lane, A. C., Close Lea, Rastrick, Brighouse.  
 1888 .. **Law, Robert**, F.G.S., Fenny Royd Hall, Hipperholme, Halifax.  
 1902 .. Lawton, Fred, Carlton Ter., Lane End, Skelmanthorpe, Huddersfield.  
 1893 .. **Leatham, Claude**, The Red House, Wentbridge, Pontefract.  
 1898 .. **Lee, John**, Hude Gate, Middleton-in-Teesdale, Darlington.  
 — .. **Lee, Fox P.**, Lowood, Dewsbury.  
 1896 .. Leatham, E., J.P., Aldersyde, Dringhouses, York.  
 1890 **L.** Liverpool, Rt. Hon. Lord, Kirkham Abbey, Yorkshire.  
 1889 .. **Lofthouse, J. H.**, Lyell House, Dragon Parade, Harrogate.  
 1899 .. **Lofthouse, T. A.**, F.E.S., The Croft, Linthorpe, Middlesborough.  
 1889 .. Longster, T.P., Mowbray Terrace, Malton.  
 — .. **Loten, Philip W.**, Easington, near Hull.  
 1898 .. Lucas, B. R., 3, Dyer Terrace, Winnington, Northwich, Cheshire.  
 1884 .. **Lund, Percy**, 57, Southfield Square, Bradford.  
 1904 .. Lupton, F., Bond End, Knaresborough,  
 — .. Lupton, Henry, F.E.S., Lyndhurst, North Grange Road, Headingley, Leeds.  
 1891 .. **McLean, Kenneth**, Pennine View, Harrogate.

- 1905 .. March, H., 2, West Hill Terrace, Chapel Allerton, Leeds.  
 1903 **L. Margerison, Samuel**, Calverley, Leeds.  
 1904 .. Marshall, Rev. C. C., Newton Terrace, School Lane, Chapelton,  
 Leeds.  
 1890 .. **Marshall, J. J.**, North Bar Street, Beverley.  
 1905 .. Mason, F. A., 11, Lyddon Terrace, Leeds.  
 — .. **Massee, George**, F.L.S., V.M.H., Gateacre, Sandycombe Road, Kew  
 Gardens, Surrey.  
 1901 .. Massey, Herbert, F.E.S., Ivy Lea, Didsbury, Manchester.  
 1905 .. Matthews, E. R., C.E., F.G.S., Borough Engineer, Bridlington.  
 1887 .. Meek, J. M., M.A., 6, Nelson Terrace, Coatham, Redcar.  
 1896 .. Melrose, J., Clifton Croft, York.  
 1894 .. Melvill, J. C., M.A., F.L.S., Meole Brace Hall, Shrewsbury.  
 — .. **Miall, Prof. L. C.**, F.R.S., 1, Richmond Mount, Headingley, Leeds.  
 1893 **L. Mills, F. W.**, F.R.M.S., Thornleigh, Huddersfield.  
 1905 .. Mitchell, E., 80, Coltcote Avenue, Harehill, Leeds.  
 1895 .. Mitchelson, Major J. M., The Hall, Pickering.  
 — .. **Moiser, H. R.**, F.G.S., Heworth Grange, York.  
 1896 .. **Moore, Harry**, F.R.M.S., 12, Whiston Grove, Rotherham.  
 1900 .. Moore, H. H., 8, Wood Street, Longwood, Huddersfield.  
 1906 .. Morley, B., Wind Mill, Skelmanthorpe, Huddersfield.  
 1883 .. Morrison, Walter, J.P., Malham Tarn House, Settle.  
 1905 .. Morse, E. W., Staff Postal Branch, P.O., Leeds.  
 1889 .. **Mortimer, J. R.**, Driffield.  
 1906 .. Moses, G. W., West View, Bishop Auckland.  
 1899 .. Moss, C. E., B.Sc., P.T. Centre, Chorlton Street, Manchester.  
 1901 .. Muff, H. B., F.G.S., The Red House, Bexley Heath, Kent.  
 1886 .. **Naughton, John**, Ellesmere School, Park View, Harrogate.  
 1889 .. **Naylor, E.**, Heather Bank, Hazelhurst Road, Bradford.  
 1887 .. **Nelson, T. H.**, M.B.O.U., The Cliffe, Redcar.  
 — .. **Nelson, W.**, Prospect View, Crossgates, Leeds.  
 1885 .. **Newbitt, Thomas**, F.G.S., 17, Royal Crescent, Whitby.  
 1901 .. Newcomen, G. H. T., Kirkleatham Hall, Redcar.  
 1900 .. Newsholme, G. T. W., F.C.S., 27, High Street, Sheffield.  
 1890 **L. Newton, Rev. C. H.**, Vicarage, Redditch.  
 1905 .. Northcote, Dr. A. B., Blenheim House, Monkgate, York.  
 — .. Nuttall, W., Temple Rhydding, Baildon, Shipley.  
 1888 .. Oldroyd, Charles, Lund, near Beverley.  
 1899 .. **Ostheide, Heinrich**, 91, Harehills Avenue, Leeds.  
 1890 **L. Oxley, H.**, Spenfield, Weetwood, Leeds.  
 1888 .. Oxley, Rev. W. H., M.A., Petersham Vicarage, Surrey.  
 1888 .. Painter, Rev. W. H., Stirchley Rectory, Shifnal, Salop.  
 1900 .. Parkin, William, F.A.I., The Mount, Sheffield.  
 — .. **Parsons, H. Franklin**, M.D., Oakhyrst, 4, Park Hill Rise, Croydon.  
 1905 .. Patterson, J. W., 14, Mitchell Street, West Hartlepool.  
 1891 **L. Pawson, A. H.**, J.P., F.L.S., Artillery Mansions, Victoria Street, S.W.  
 1891 **L. Pawson, Mrs. A. H.**, Artillery Mansions, Victoria Street, S.W.  
 1906 .. Peacock, Rev. E. A. W., F.G.S., Cadney, Brigg, Lincolnshire.  
 1893 .. **Peake, Rev. Edward**, M.A., Hillside, Bradfield, Berks.  
 — .. Pearson, H. W., Castle Howard Road, Malton.  
 1905 .. Peck, M. C., Park Villas, The Valley, Scarborough.  
 1905 .. Pentland, J., College Road, Ripon.  
 1893 .. **Petch, T.**, The Lawn, Peradenirja, Ceylon.  
 1894 .. **Petty, S. Lister**, Dykelands, Ulverston.  
 1902 .. Philip, R. H., 447, Beverley Road, Hull.  
 1901 .. Pickard, J. F., 219, Woodhouse Lane, Leeds.  
 — .. **Pocklington, H.**, 41, Virginia Road, Leeds.  
 — **L. Porritt, G. T.**, F.L.S., F.E.S., Mayfield, Edgerton, Huddersfield.  
 1893 .. **Potter, E. G.**, 14, Bootham Crescent, York.  
 — .. Powell, Sir F. S., Bart., M.P., Horton Old Hall, Bradford.



- 1887 .. **Powys, Rev. H. A.**, M.A., Vicarage, Meanwood, Leeds.  
 1902 .. **Pratt, Rev. Charles T.**, M.A., Cawthorne Vicarage, Barnsley.  
 1896 .. Priestley, F. N., Littletown, Liversedge, Normanton.  
 1890 .. Procter, J. W., Ashcroft, York.  
 1884 .. Prodhams, Herbert, Allerston, Pickering.  
 1898 .. Punch, J. W. R., Hastoe House, Southfield Road, Middlesborough.  
 1894 .. Punshon, Mrs. R. M., Ingleby House, Northallerton.  
 1887 .. Pyman, W. H. S., Moss Brow, Whitby.  
 1896 .. Raimes, Alwyn, M.D., 2, Scarcroft Road, York.  
 1883 .. Richmond, Rt. Rev. J. J. Pulleine, D.D., Bishop of Stanhope  
 Rectorry, Darlington.  
 — .. Ripon, Most Hon. Marquis of, K.G., Studley Royal, Ripon.  
 1890 .. **Roberts, Walter**, Ivy Bank, Avenue Road, Doncaster.  
 1898 .. Robertshaw, A. Gibson-, Gordon Bank House, Midgley, Luddenden  
 Foot, R.S.O.  
 1902 .. Robinson, A. S., B.A., M.B., Dundas Villa, Redcar.  
 1892 .. **Robinson, J. F.**, 22, Harley Street, Hull.  
 1887 .. **Robinson, William**, Greenbank, Sedbergh.  
 — .. **Roebuck, W. Denison**, F.L.S., 259, Hyde Park Road, Leeds.  
 — .. Rowley, Walter, F.G.S., Alder Hill, Meanwood, Leeds.  
 1889 .. Rowntree, Allan, Broom Lodge, Scarborough.  
 — .. **L. Rowntree, J. H.**, Folkton Manor, Ganton, York,  
 1900 .. Rudd, H. B., 29, Westgate, Ripon.  
 1903 .. Rushworth, G. E., 2, Westgate, Huddersfield.  
 1901 .. Sachse, W., Annandale House, Linthorpe, Middlesborough.  
 1888 **L. St. Paul**, Major H., J.P., The Willows, Ripon.  
 1890 .. St. Quintin, W. H., J.P., D.L., M.B.O.U., Scampston Hall,  
 Killington, York.  
 1897 .. Saner, C. O. F., 2, Elgin Villas, Anlaby Road, Hull.  
 1884 .. **Sawdon, F. J.**, M.D., 22, Grosvenor Crescent, Scarborough.  
 1889 .. Scharff, R. F., Ph.D., Tudor House, Dundrum, Dublin.  
 1905 .. Schwabe, A. L., 56, Market Street, York.  
 1900 .. Sewell, J. T., Chubb Hill Road, Whitby.  
 1886 .. Sheffield Central Free Library, c/o S. Smith, Surrey Street, Sheffield.  
 1897 .. **Sheppard, T.**, F.G.S., The Museum, Hull.  
 1891 .. Shillito, John, J.P., 4, Park View, Hopwood Lane, Halifax.  
 — .. **Shuffrey, Rev. W. A.**, M.A., Arncliffe Vicarage, Skipton.  
 1905 .. Simpson, H., 17, Turner Street, Redcar.  
 1903 .. Sikes, Miss H. M., Doe Royd, Almondbury, Huddersfield.  
 1894 .. **Simpson, William**, F.G.S., Catteral Hall, Settle, Yorkshire.  
 1899 .. Skipwith, Mrs. S. F., c/o Miss E. Ross, Wadworth Hall, Doncaster.  
 1904 .. Slater, H., School House, Helmsley.  
 — .. **Slater, Rev. H. H.**, M.A., F.Z.S., M.B.O.U., Thornhaugh Rectory,  
 Wansford, Northamptonshire.  
 — .. **Slater, Matthew B.**, F.L.S., 84, Newbeggin, Malton.  
 1896 .. **Slingsby, W. C.**, F.R.G.S., Beech Hill, Carlton, Skipton.  
 1905 .. Smith, T., London Road, Alderley Edge.  
 1903 .. **Smith, W. G.**, B.Sc., Ph.D., 29, Broomfield Crescent, Headingley.  
 1897 .. **Snelgrove, E.**, B.A., 61, Harcourt Road, Sheffield.  
 — .. **Sorby, H. Clifton**, LL.D., F.R.S., Broomfield, Sheffield.  
 1885 .. **Speight, H.**, Crow Nest, Bingley, Yorkshire,  
 — .. Stainforth, T., 61, Hopwood Street, Hull.  
 1906 .. Stansfield, Miss E., 3, Milton Street, Halifax.  
 — .. Stather, A., 224A, Spring Bank, Hull.  
 1891 .. **Stather, J. W.**, F.G.S., 16, Louis Street, Hull.  
 1886 .. **Stears, John**, Westholme, Hessle, Hull.  
 1884 .. **Stiles, M. H.**, F.R.M.S., 2, Frenchgate, Doncaster.  
 1889 .. Strickland, W. W., (Travelling; has no fixed address).  
 1899 .. Strother, T.W., F.Z.S., Westfield, Killinghall, Leeds.  
 1905 .. Stump, E. C., Polefield, Blackley, Manchester.



- 1889 .. Suddaby, W.M., Crown, Hotel, Wheelgate, Malton.  
 — .. **Summerfield**, Rev. **R. A.**, M.A., North Stanley Vicarage, Ripon.  
 1903 .. Sutcliffe, F., Sleights, near Whitby.  
 1890 .. **Sutcliffe, J. W.**, The Hollies, Greenroyd, Halifax.  
 1905 .. Sutcliffe, W. R., 13, East Parade, Harrogate.  
 1899 .. Taylor, C. E., Akay, Sedbergh, R.S.O., Yorkshire.  
 — .. **Taylor, J. W.**, North Grange, Horsforth, Leeds.  
 1884 .. Taylor, Rev. **R. Y.**, B.A., Melbecks Vicarage, Richmond, Yorkshire.  
 1900 .. **Taylor, T. H.**, M.A., The Yorkshire College, Leeds.  
 1897 **L.** Teal, Joseph, Bankfield House, Yeadon.  
 — .. Tetley, C. F., M.A., J.P., Spring Bank, Headingley, Leeds.  
 1903 .. Thirkell, E. W., Aldwarke, Rotherham.  
 1890 .. **Thomas, W. H.**, The Ness, Roman Road, Linthorpe, Middlesborough.  
 1890 .. **Thompson, M. L.**, F.E.S., 2, Thorncliffe Villas, Saltburn-by-the-Sea.  
 — .. **Thrippleton, John**, Burley View, Burley, Leeds.  
 1895 .. Tindall, F. M., Overdale, Ranmoor, Sheffield.  
 1897 .. Tomlinson, J., York Terrace, Stairfoot, Barnsley.  
 1884 .. **Travis**, Rev. **W. T.**, M.A., The Rectory, Ripley, Leeds.  
 1889 .. **Trechmann, C. O.**, Ph.D., F.G.S., Hudworth Tower, Castle Eden.  
 1897 .. **Tunstall, Wilmot**, F.E.S., Brook House, Meltham, Huddersfield.  
 1889 .. **Turner, B.**, 10, Pitt Street, Barnsley.  
 1890 .. **Yetch, W. Y.**, M.R.C.S., The Crescent, Middlesborough.  
 1899 .. **Waddington, John**, F.E.S., 6, Park Home, Harehills Avenue, Leeds.  
 1894 .. **Wager, Harold**, F.R.S., Hendre, Horsforth Lane, Far Headingley, Leeds.  
 1888 .. **Waite, Edgar R.**, F.L.S., Headingley, Mosmans Bay, Sydney, N.S.W.  
 — .. **Waite, William**, Cliffe Cottage, Clayton West, Huddersfield.  
 1890 **L.** **Walker, J. F.**, M.A., 45, Bootham York.  
 1906 .. Walker, S., Council School, Calverley, Leeds.  
 — .. **Walsingham**, Rt. Hon. Lord, Merton Hall, Watton, S.O., Norfolk.  
 1884 .. **Walton, F. F.**, F.G.S., 19, Charlotte Street, Hull.  
 — .. **Ward, George**, F.I.C., 1, Buckingham Terrace, Hyde Park, Leeds.  
 1887 .. **Ward, Thomas F.**, Park Road South, Middlesborough.  
 1893 .. **Warwick, J. W.**, Bilton View, Knaresborough.  
 1891 .. **Waterfall, Charles**, 6, De Grey Street, Beverley Road, Hull.  
 1906 .. Waterworth, H., 7, Kingsley Place, Halifax.  
 1885 .. **Watson, Arnold T.**, F.L.S., Southwold, Tipton Crescent, Sheffield.  
 1903 .. Wattam, W. E. L. 54, Town Gate, Newsome, Huddersfield.  
 1887 .. **Watts, Rev. A.**, F.G.S., Rectory, Witton Gilbert, Durham.  
 1901 .. West, Prof. G. S., B.A., F.L.S., Royal Agricultural Coll., Cirencester.  
 — .. **West, William**, F.L.S., 26, Woodville Terrace, Little Horton Lane, Bradford.  
 1897 .. Wheat, J. B., M.A., Norwood Hall, Sheffield.  
 1901 .. Wheeler, R. M., M.A., Hurst Garth, Dallam Road, Shipley.  
 1901 .. Wheldon, J. A., F.L.S., 60, Hornby Road, Walton, Liverpool.  
 1904 .. Whitaker, A., Savile House, Worsborough Bridge, near Barnsley.  
 1890 .. Whitaker, Lieut. J. A., Fulford Barracks, York.  
 — .. Whitaker, T. S., F.R.G.S., Everthorpe, Brough.  
 1899 .. **White, Alfred**, F.Z.S., Derwendale, Oakwood Avenue, Roundhay, Leeds.  
 1897 .. Whitham, T., The Moorlands, Bramhope, Leeds.  
 1891 .. Whiteley, J. H., B.A., M.P., Brantwood, Halifax.  
 — .. Whitwell, W., F.L.S., Underhill, Kidderminster Road, Hagley, Stourbridge.  
 1904 .. Wilcox, R. L., St. Lawrence Vicarage, Malton.  
 1893 .. Wilkinson, A., 39, East Mount Road, York.  
 1893 .. **Wilkinson, H. J.**, The Lodge, St. Helen's Square, York.  
 1892 .. **Wilkinson, J. J.**, Burnside, Skipton.  
 1894 .. **Wilkinson, Johnson**, M.B.O.U., Vermont, Huddersfield.  
 1903 .. **Wilkinson, T.**, Rustic Cottage, Eldwick, Bingley.

- 1901 .. Wilson, Albert, F.L.S., F.R.Met.S., 4, Eton Road, Ilkley.  
 1890 .. Wilson, H. J., M.P., Osgathorpe Hill, Sheffield.  
 — .. **Wilson, J. E.**, F.G.S., Dunholm, Ilkley.  
 1906 .. Wilson, W., Holywell Cottage, Skipton in Craven.  
 — .. **Winter, George**, F.R.M.S., 14, Baxtergate, Doncaster.  
 1905 .. Winter, W. P., B.Sc., 28, Westcliffe Road, Shipley.  
 1905 .. Womersley, G. E., Tidswell Street, Heckmondwike.  
 1889 .. Wood, R., M.D., Red House, Robin Hood's Bay, R.S.O.  
 1890 .. **Woodhead, T. W.**, F.L.S., Westfield, Somerset Road, Almondbury,  
 Huddersfield.  
 1904 .. Woods, Rev. F. H., B.D., Bainton Rectory, near Driffield.  
 1890 **L.** Wright, C. B. E., J.P., D.L., Bolton Hall, Clitheroe.  
 1901 .. **Wroot, H. E.**, 15, Clarendon Terrace, Manningham, Bradford.  
 — .. Yewdall, E., 58, Wade Lane, Leeds.

# YORKSHIRE NATURALISTS' UNION.

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## FORTY-FIFTH ANNUAL REPORT, FOR 1906.

*Presented at York, Dec. 15th, 1906.*

The Executive Committee of the Yorkshire Naturalists' Union has pleasure in presenting the following report on the year's work of the Union, and of its Committees and Sections.

**The Forty-fourth Annual Meeting** was held at Bradford on Saturday, January 27th, in the Cartwright Memorial Hall, which had been kindly lent by the Bradford Corporation. Two excursions preceded the meeting and were well attended. Mr. J. E. Wilson conducted the Geologists, and Messrs. W. H. Parkin and H. B. Booth looked after the Botanists, etc.; and in Lister Park Mr. E. Naylor described the Botanical Gardens.

At the General Meeting, Mr. G. W. Lamplugh, F.R.S., delivered his Presidential Address entitled "A Necessity for the Amateur Spirit in Scientific Work." This was published *in extenso* in the "Naturalist" for March.

After the Address, a *Conversazione* was held in the rooms of the Cartwright Hall, in some of which special Natural History exhibits were prepared, and these were allowed to remain for some days after the meeting for the benefit of the people of Bradford, who much appreciated them. To the two Bradford Scientific Societies, and to Messrs. S. Margerison and H. E. Wroot, the Union is indebted for the great pains that were taken to ensure the meeting being thoroughly successful.

**The Ordinary Field Meetings** during the year have been five in number, detailed reports of which appeared in the "Naturalist" in due course. In addition there was the annual Fungus Foray, which was held at Farnley Tyas, and a special excursion to Goathland, which was arranged at the eleventh hour in connection with the British Association Meeting at York. The various excursions were held on the dates shown hereunder:—

- 1906. May 12th to 14th—Ingleton.
- June 2nd to 4th (Whit Week-end)—Flamborough.
- June 30th (Saturday)—Fewston.
- July 12th (Thursday)—Askern.
- August 4th to 6th (August Bank Holiday Week-end)—Goathland.
- August 18th to 20th—Guisborough.
- September 22nd to 26th (Fungus Foray)—Farnley Tyas.

**Ingleton.**—A very successful excursion was held at Ingleton on May 12th, and some of the members stayed over the week-end. The Geologists, under the leadership of their Chairman, Mr. Cosmo Johns, paid special attention to the Carboniferous series exposed in the area, a detailed report upon which, by Mr. Hawkesworth, appeared in the "Naturalist" for July. The work of the other sections at Ingleton was summarised in our journal for June. Mr. Cosmo Johns presided at the meeting after tea, at which a hearty welcome was given to Mr. W. Denison Roebuck, the late Secretary, on his return to England after his travels abroad. There were 19 societies represented, and 13 new members were elected, whilst three new societies were affiliated with the Union.

**Flamborough.**—Whit Week-end, June 2nd to 4th, was spent at Flamborough, and was certainly one of the most enjoyable and successful that the Union has held for a long time. Over 50 members stayed the week-end, and on the Bank Holiday the number attending the various sections considerably exceeded 150. During the three days the headland was thoroughly investigated, in sections, full reports of the work appearing in the "Naturalist" for July and August. In all the sections important finds were recorded. During the meeting the members were informed of the fact that a pair of peregrine falcons was evidently nesting at last successfully at Flamborough; and through the action of the members of the Yorkshire Wild Birds' Protection Committee present in offering a reward to the "climbers" if the birds were successfully reared, and by making this well known by means of the press, the Union can safely take the credit of being the means of the young peregrines getting safely away; and it is to be hoped that the handsome bird may again regularly visit the headland. At this meeting the Union was also successful, by means of letters to the press, in staying what might have resulted in the whole of the headland being spoiled by hideous advertisements.\* At the Saturday evening meeting, which was held at the Union's headquarters at Bridlington, under the Chairmanship of Professor Kendall, a paper by Mr. J. H. Howarth on the Boulder Committee and its work was the cause of the matter being thoroughly discussed. At the same meeting, the Honorary Secretary exhibited and described some new ammonites, &c., found in the Speeton clay by Mr. C. G. Danford. At the meeting held in the open air on the Monday evening, at the close of the excursion, the Rev. E. Maule Cole presided, and reports of the various sections were presented. A photograph of some of the members present was taken at this excursion and is reproduced in the "Naturalist" for August.† Twenty societies were represented, and seven new members were elected.

\* See "Naturalist" for July, p. 202-3. † See "Naturalist" for July, p. 204-5.



**Fewston.**—On Saturday, June 30th, about 60 members drove in brakes from Harrogate to Fewston and Washburn Valley, and a day was spent under the guidance of Messrs. Fortune, Margerison, and W. Storey. Mr. W. D. Roebuck occupied the chair at the evening meeting, when the reports of the work were presented, which have since been printed in the August "Naturalist." Fourteen societies were represented, and three new members were elected.

**Askern.**—On Thursday, July 12th, a pleasant and profitable meeting was held at Askern, and was attended by 80 members and associates, Messrs. H. H. Corbett and H. Culpin being largely responsible for the arrangements. The scientific results of the excursion appeared in the October "Naturalist." Mr. Roebuck presided at the meeting after tea, at which the reports of the day's work were presented. Sixteen societies were represented, one new member was elected, and the Doncaster Grammar School Natural History Society was affiliated with the Union.

**Goathland.**—It was originally intended that the Yorkshire Naturalists' Union should arrange an excursion on August Bank Holiday and invite the members of the British Association to attend it; and a small sub-committee was appointed to carry this out on similar lines to the Grassington excursion, which was held in connection with the British Association Bradford meeting in 1900. Innumerable difficulties, however, had to be surpassed, and eventually, at very short notice, a circular was sent round arranging a meeting at Goathland in connection with the British Association, and a very successful week-end was passed under the leadership of Prof. P. F. Kendall; Mr. M. B. Cotsworth, of York, being largely responsible for the arrangements. Whilst many members of the Union were present at Goathland, it must be admitted that the excursion was not planned on the lines originally intended by the Executive.

**Guisborough.**—In continuation of the investigation of the ironstone of Cleveland, which had been examined at Loftus by the Union the year previously, a pleasant week-end (August 18th to 20th) was spent at Guisborough, where Mr. J. J. Burton had made every possible arrangement for the benefit of the members. On this occasion, remarkable to state, the Union had a unique experience. At Guisborough two of the landowners would not give permission for the members to go over their estates, the excuses given being very lame indeed, and consequently at Guisborough the members had an experience which they had not previously had at any of the 200 foregoing meetings which had been held in various parts of the country. At the ordinary meeting on Saturday evening Mr. C. Crossland presided, and reports on the work accomplished on that date were then presented. Afterwards Mr. J. J.

Burton presided at a meeting consisting largely of geologists, when the following papers were read :—“The Origin of the Cleveland Ironstone,” by Dr. H. C. Sorby, F.R.S., etc. (this was printed in the “Naturalist” for October); “Notes on the History of the Cleveland Ironstone,” by Mr. Cosmo Johns; and “The Continuous Glacial Period,” by Mr. M. B. Cotsworth. The papers were well discussed, particularly the last named, the discussion upon which was continued the following evening. One new member was elected. Details of the work accomplished at Guisborough appeared in the November “Naturalist.”

**Farnley Tyas.**—The annual Fungus Foray was held at Farnley Tyas, from September 22nd to 26th, and, as is usual on such excursions, much good work was accomplished, and a very profitable time spent. Mr. H. Wager, F.R.S., read a paper entitled “Recent Researches on Reproduction in Fungi,” and six new members were elected.

Generally speaking, the excursions during the past summer have given evidence of exceptional vigour and enthusiasm on the part of the members of the Union, and it can be safely said that the various meetings have been as well attended and as scientifically valuable as those in any previous year. The method adopted during the past twelve months of suggesting definite problems to be solved on the excursions has proved even more beneficial than was anticipated; the results of the work of the geological section particularly being noteworthy. The practice of having papers discussed in the evenings on the week-end excursions has been followed with marked success. The scientific results of these excursions, which have appeared in our journal the “Naturalist,” have given permanency to the work accomplished, as well as added value to that publication.

**Excursion Programmes** giving the details of the districts visited from a natural history point of view have been circulated prior to each meeting as heretofore.

With the exceptions referred to at Guisborough, **Permission to visit Estates** has been generously granted by the landed gentry in the county.

**Railway Facilities** have also been kindly given by the railway companies as in past years.

**Excursions for 1907.**—The following places and dates are decided for excursions for 1907 :—

- For York, N.E.—Robin Hood’s Bay (Whit Week-end, May 18th to 20th).
- „ S.E.—South Cave (Saturday, June 22nd).
- „ S.W.—Thorne Waste (Thursday, July 11th).

For York, Mid.W.—Kettlewell, for Arncliffe (August Bank Holiday Week-end).

„ N.W.—Horton in Ribblesdale (September 7th).  
*Fungus Foray*; Grassington, for Grass Woods and Bolton Woods (September 21st to 26th).

**Annual Meeting for 1907.**—This will be held at Halifax on the invitation of the Halifax Scientific Society.

**Objects of the Union.**—The Secretary will supply circulars setting forth the objects and aims of the Union on applications.

**Winter Lecture Scheme.**—In accordance with the instructions of the Executive, a revised list of Lectures has been prepared by the Secretary and sent round to the affiliated societies. This appears to have been taken full advantage of by the societies, judging by the syllabuses which have been received by the Secretary of the Union. The following is the revised list of Lectures, with the names of the Lecturers, provided under this scheme, and the thanks of the Union are due to the gentlemen mentioned for kindly allowing their names to be placed on the list, and giving lectures to the different societies without remuneration beyond the actual out-of-pocket expenses:—

**E. G. BAYFORD**, 2 Rockingham Street, Barnsley.

1. "A Chat about Beetles." Illustrated by Slides and Specimens.
2. "Some Classics of Entomology." Illustrated by Examples.
3. "Insects as Food and Medicine."

**GODFREY BINGLEY**, Thorniehurst, Shaw Lane, Headingley.

"Geological Photography." Illustrated by 200 Lantern Slides.

**Rev. W. LOWER CARTER, M.A., F.G.S.**, The Manse, Hopton, Mirfield.

1. "A Geological Run through Switzerland."
2. "Glaciers and their Ways."
3. "Early Man in Britain."
4. "The Evolution of the Yorkshire Rivers." Illustrated by Lantern Slides.

**WM. CASH, F.G.S.**, 26 Mayfield Terrace, Halifax.

1. "The Fossil Plants of the Yorkshire Coal Measures."
2. "A Visit to Mexico." Illustrated by Lantern Slides.

**W. GREGSON, F.G.S.**, Gainford, Darlington.

"Niagara Re-visited." Illustrated by Lantern Slides.

**Prof. PERCY F. KENDALL, F.G.S., Ex-President of the Y.N.U.**,  
5 Woodland Terrace, Stainbeck Lane, Leeds.

(Will arrange to lecture if professional duties permit.)



**ROBERT LAW, F.G.S.**, Fennyroyd Hall, Hipperholme, Yorks.

1. "Explorations in Caves." Illustrated by Wall Diagrams.
2. "Flint Hunting on Lancashire and Yorkshire Moors."
3. "A Journey to the Rocky Mountains and Visit to the Camp of the North American Indians."
4. "An Age of Terrible Reptiles."
5. "Progression of Life on the Earth."

**KENNETH MACLEAN**, Pennine View, Harrogate.

1. "Plumage."
2. "Some Ornithological Evolutions."
3. "Birds that are Misunderstood." Illustrated by Slides and Sketches.

**THOS. SHEPPARD, F.G.S.**, The Museum, Hull.

1. "Early Man on the Yorkshire Wolds."
2. "An Ice Age in East Yorkshire."
3. "A Geological Ramble on the Yorkshire Coast."
4. "The Romans in the Humber District." Illustrated by Lantern Slides.

**JNO. W. TAYLOR, F.L.S.**, North Grange, Horsforth, Leeds.

"Structure and Life-History of the Garden Snail" (*Helix aspersa*).  
Illust ated by Lantern Slides.

**A. WHITAKER**, Savile House, Worsborough Bridge, Barnsley.

1. "Bats: Their Structure and Senses, etc."
2. "Bats: Their Haunts and Habits,"
3. "Bats: Their Reproduction and Breeding Habits." Illustrated by Lantern Slides.

**T. W. WOODHEAD, Ph.D., F.L.S.**, Westfield, 43 Somerset Road, Almondbury, Huddersfield.

1. "Plants of the Moorlands."
2. "Natural History of Water Plants."
3. "Woodland Plants."
4. "Symbiosis, or Mutualism in Plants."
5. "Spring and Autumn Tints." Illustrated by Lantern Slides.

The Societies affiliated with the Union still show a satisfactory increase in numbers. Forty-one Societies are now affiliated, and during the year four new Societies have joined, namely:—The Hebden Bridge Literary and Scientific Society; the East Riding Nature Study Association; the Shepley and District Naturalists' Society; and the Doncaster Grammar School Natural History Society. In addition, the following Societies have increased their subscription to the full affiliation amount:—The Malton Naturalists' Society; the Halifax Scientific Society; and the Cleveland Naturalists' Field Club.\* The total membership of the Societies affiliated is now 3368.

The Statistics furnished by the Secretaries of the various Societies to the Union show that the average membership of each Society is 82, or a total of 3368, as already stated. Added to this, the membership of the Union, the total numerical strength is 3881.

\* This list includes those elected at the Annual Meeting.

The Membership of the Union now stands at 488, an increase of 40 compared with last year.

The following new members † have been elected during the year :—

- Atkinson, J., Furze Hill, Pool, Leeds.  
 Bellerby, W., 8, Burton-Stone Lane, York.  
 Bevan, D. W., 32, Nansen Street, Scarborough.  
 Bown, P., Architect, North Park Road, Harrogate.  
 Briggs, Alderman A. Curren, J.P., Gledhow Grange, Leeds.  
 Brown, A., Thornhill Street, Calverley, Leeds.  
 Carr, H., 23, Carlton Terrace, Skipton-in-Craven.  
 Clough, S., Steeton Hall, near Keighley.  
 Cotsworth, M. B., Acomb, York.  
 Cozens, E. J., Preston Grammar School, Stokesley.  
 Dickenson, J. H. S., 25, Fir Street, Walkley, Sheffield.  
 Eaton, R., 113, Hyde Park Road, Leeds.  
 Gibson, W., B.Sc., F.G.S., Geological Survey office, 28, Jermyn Street, London.  
 Goldthorpe, B., 12, Spring Gardens, Milnsbridge.  
 Grabham, Oxley, M.A., M.B.O.U., The Museum, York.  
 Gregory, E. E., Thornfield Cottage, Bingley, Yorkshire.  
 Grimshaw, P. H., F.E.S., Royal Scottish Museum, Edinburgh.  
 Halliwell, J., School House, Fewston, near Otley.  
 Hawley, H. C., Tumby Lawn, Boston, Lincolnshire.  
 Hind, W., M.B., B.Sc., F.G.S., Roxeth House, Stoke-on-Trent.  
 Hodges, I., M.I.M.E., F.G.S., The Manor House, Whitwood, Normanton.  
 Hudson, B., Memorial Museum, Middlesborough.  
 Humphreys, W., C.A., Hill Crest, Bramhall Lane, Bramhall, Stockport.  
 Jackson, E. W., c/o. Messrs. Pattinson and Stead, 11, Queen's Terrace, Middlesborough.  
 Johnstone, Miss M. A., B.Sc., 58, Waverley Road, Horton Grange, Bradford.  
 Kendall, P. F. Junr., 5, Woodland Terrace, Stainbeck Lane, Leeds.  
 Lumby, A. Haigh, 121, Horton Grange Road, Bradford.  
 McLaughlin, H., Havira Bank, Sedburgh.  
 Mellor, T. K., Vernon Avenue, Huddersfield.  
 Nettleton, S., Roundwood, Ossett, Leeds.  
 Parkin, W. H., Studholme, Shipley.  
 Roose, T., Bolton Abbey, near Skipton, Yorkshire.  
 Service, R., M.B.O.U., Maxwelltown, Dumfries.  
 Smith, Sydney H., 20, Park Crescent, York.  
 Steward, E. S., F.R.C.S., M.B.O.U., 10, Princess Square, Harrogate.

† This list includes those elected at the Annual Meeting.

Turner, J., Scholes Moor, Holmfirth.

Wakefield, Captain, Swinsty Hall, near Otley.

Doncaster Grammar School Natural History Society, Secretary,  
H. V. Corbett, Grammar School, Doncaster.

East Riding Nature Study Association, Secretary, W. J. Algar,  
School House, Lockington, near Beverley.

Hebden Bridge Literary and Scientific Society, Secretary, Wm.  
Nowell, Bank Side, Hebden Bridge.

Shepley and District Naturalists' Society, Secretary, F. Hirst,  
Armitage Row, Shepley.

We regret to record the death of the following members :—

Alderman A. Currer Briggs, J.P., Gledhow Grange, Leeds.

Ven. Archdeacon J. J. Brooke, Sandal, Wakefield

W. Nelson, Prospect View, Crossgates, Leeds

W. Nuttall, Baildon.

**Divisional Secretaries.**—As in past years, the divisional secretaries have been invaluable in making the local arrangements for our excursions, etc.

The following were elected for 1907 :—

York, S.W.—H. H. Corbett, 9, Priory Place, Doncaster.

A. Whitaker, Savile House, Worsborough  
Bridge, Barnsley.

York, Mid W.—Riley Fortune, Lindisfarne, Dragon Road,  
Harrogate.

York, N.W.—W. Robinson, Greenbank, Sedbergh.

York, N.E.—J. J. Burton, Nunthorpe, R.S.O., Yorkshire.

York, S.E.—J. W. Stather, 16, Louis Street, Hull.

**Local Treasurers.**—The Local Treasurers, as in past years, assisted the Hon. Secretary in the matter of Subscriptions, etc.

The local Hon. Treasurers were elected as follows :—

Halifax—C. Crossland, Coleridge Street, Halifax.

Huddersfield—W. E. L. Wattam, 54, Towngate, Newsome,  
Huddersfield.

Leeds—H. Ostheide, 91, Harehills Avenue, Leeds.

Malton—M. B. Slater, Newbiggin, Malton.

Middlesbrough—T. F. Ward, Park Road South, Middles-  
brough.

Redcar—T. H. Nelson, The Cliffe, Redcar.

Scarborough—J. H. Rowntree, Folkton Manor, Ganton, York.

Sheffield—A. T. Watson, Southwold, Topton Crescent,  
Sheffield.

Skipton—J. J. Wilkinson, Burnside, Skipton.

Whitby—Thomas Newbitt, 17, Royal Crescent, Whitby.

**General Committee.**—The following were added to the permanent general committee:—

**H. Culpin**, 36, Nether Hall Road, Doncaster.

**G. Grace, B.Sc.**, 38, Windsor Road, Doncaster.

**A. Whitaker**, Savile House, Worsborough Bridge, Barnsley.

**Miss M. A. Johnson, B.Sc., LL.A.**, Bradford.

**Transactions.**—During the year the members have received the final part of Baker's "North Yorkshire," which principally consists of a list of the mosses and hepatics, prepared by Mr. M. B. Slater. This was issued in April, and forms part 33 of our Transactions, being the sixth instalment of "North Yorkshire," the first of which appeared in 1888. Your Executive therefore has pleasure in announcing that still another of the monographs which the Union has undertaken has been completed. The part issued to the members this year contains 288 pages. A number of copies of the complete work of "North Yorkshire" have been bound up, and it is to be hoped that the sale of these will go towards paying the cost of printing the final part.

**"The Fungus Flora."**—The cost of the production of "The Fungus Flora" has been borne by the Mycological Committee and a few friends. The committee were anxious that the flora should be proceeded with; and seeing that the funds of the Union would not allow of its being printed within any definite period, they decided to raise a Guarantee Fund to ensure the Union against any serious financial risk. At the Helmsley Fungus Foray in 1903, seven of the members guaranteed £40 among them. This was supplemented by other members of the Union unconnected with the Mycological Committee, but willing to help the work forward. Ultimately the fund reached £52, 7s. It was made up as follows:—W. N. Cheesman, £10, later increased to £15; C. Crossland, £10; G. Masee, £5; Alfred Clarke, £5; Thos. Gibbs, £5; J. Wms. Sutcliffe, £1, 1s.; C. H. Broadhead, £1, 1s. Other members of the Union—John Farrah, £5; U. Bairstow, R. H. Philip, A. G. Robertshaw, J. J. Burton, and W. D. Roebuck, £1, 1s. each.

As the work proceeded, it was found that the matter it was desirable to insert, exceeded expectations. The cost eventually amounted to about £75. This has been reduced by sales to £64, 5s. 10d., leaving a balance of about £12 to be made good. Mr. Crossland proposed to the executive that he would undertake this, in addition to his £10 guaranteed, and settle Browns' claim in full, on condition that the remaining stock be handed over to him. This will free the Union from any further responsibility in the matter; 499 copies have been distributed free to the members of the Union as Transactions, and sent out as Exchanges. Your executive thanked Mr. Crossland for his liberal offer, and decided to accept his terms.



“The Birds of Yorkshire,” which has been taken over by the Union’s publishers, Messrs. Brown, is being proceeded with satisfactorily, the whole being in type. There has been some little delay through a variety of causes in getting this work on the market, but it has been felt that it would be more satisfactory to have the work done thoroughly and well, than to rush it through the press in a hasty manner. We are hoping shortly to announce that the “Birds of Yorkshire” is completed, and that still another of our monographs is available.

Miscellaneous Volume, Part II.—Towards this we have in hand MSS. of an appendix of the Flora of Dewsbury, a list of fungi taken at Maltby, a list of Economic Fungi, by J. H. Holland, the geological bibliographies for 1902 to 1906, the excursion programmes for 1905 and 1906 (which are already printed off), a list of members and the 1905 report (printed off), and this report. This volume will probably be issued to the members for 1907.

## SECTIONS.

The President and Secretary of the Union are *ex-officio* Members of all the Sections and Committees.

Vertebrate Zoology Section.—Messrs. H. B. Booth and R. Fortune report :—This section has had a fairly successful year, and it is with pleasure we can report increasing attention and interest paid by its members. The meetings have been better attended than usual. At the Fawston and Flambro’ excursions the section was particularly well represented. The papers and notes in “The Naturalist,” relating to Vertebrate Zoology, during the past year have been up to the average of the last few years, but we should like to see an improvement in this direction, not only in the number of contributions but also in the number of contributors. The interesting articles by Mr. A. Whitaker have attracted a good deal of attention, and the thanks of all zoologists are due to him for his active researches. It is interesting to note that Mr. Whitaker has taken a number of Leisler’s Bats in the county. There is plenty of room for observation upon this rather neglected class of mammalia, and we hope other members in different parts of the county will second Mr. Whitaker’s efforts. In Aves the most notable record is that of the Lesser Grey Shrike (*L. minor*), from Sleights, near Whitby. Although it was shot on September 20th, 1905, it was not identified and recorded until this year. The successful nesting of several pairs of Peregrine Falcons is particularly gratifying, and it is pleasing to record that a pair of Common Buzzards has managed to rear its young in the county for the first time for some years. The reported nesting of the Golden Eye Duck in the Washburn Valley has remained unauthenticated after

investigation. Probably the Tufted Duck (which is increasing as a breeding species in the county) has been mistaken for the Golden Eye.

Much attention has been paid this year to the arrival, dispersal and departure of the summer migrants. Their arrival, owing to the cold and inclement spring, was most erratic, and many species returned in considerably diminished numbers. This was especially noticeable in the case of the Land Rail and the Black-cap Warbler. The Willow Warblers were not much after their usual time, but the other warblers were very late. Swallows and Martins came in about the usual numbers, but left again, driven away by the cold, &c., and many no doubt perished. Swifts were late, but were more abundant than ever. Nightjars appear to have increased somewhat. Many migrants delayed their departure beyond their usual time, Swifts, Willow Wrens, Chiff Chaffs, and White-throats having been seen in October, and House Martins and Swallows were feeding young in that month. It is interesting to note that a very large and unusual migration of Fieldfares was noticed in the West Riding during the last week of April and in early May. We regret to report the shooting of a Hobby at Thirsk. A pair of Quails was seen at Melmerby in September, one of which was unfortunately shot in mistake for a Snipe. Kingfishers, it is a pleasure to record, have increased considerably; this is especially gratifying, as a few years ago they were in danger of extermination.

In mammalia we may report a gratifying increase in Badgers, and the practical disappearance of mange in Foxes.

With respect to Fishes, excepting the failure to establish the Rainbow Trout, the introduction of which at first promised to be successful, there is nothing of interest to report.

“BIRDS OF YORKSHIRE.”—This long looked for work has been in the printer’s hands for some time, and we may hope for its early publication.

The following were elected for 1907 :—

President—Riley Fortune, F.Z.S., Harrogate.

Secretaries—T. H. Nelson, Redcar; A. White, Leeds; E. W. Wade, Hull; H. B. Booth, Shipley.

Representative on Executive—R. Fortune.

Representative on Committee of Suggestions—A. White.

**Entomological Section.**—Messrs. W. Hewett and A. Whitaker state that the season has not been a good one for Lepidoptera; Mr. J. W. Boulton (Hull), says “the worst on record,” and Yorkshire Entomologists are unanimous in agreeing that Sugar has been a failure, with odd exceptions, all the season, and

very few, even of the commonest species, have been reported as abundant. The most noteworthy records are the following :—

*Sphinx convolvuli* (the Convolvulus Hawk Moth), at Hoyland, near Barnsley, early in September, and a few *Cymatophora fluctuosa* were taken in their usual habitat in June.

*Vanessa io* (the Peacock Butterfly), flying in profusion at Bardsey, August 15.

*Vanessa cardui* (the painted Lady Butterfly), noticed at Middlesbro', Rombalds Moor and Cliffe, near Selby, Edlington, and Askern.

A fine specimen of *Chærocampa celerio* (the silver-striped Hawk Moth), was taken in a shop window at Wakefield, evidently attracted by light. "Stainton's Manual" reports this species as having occurred at Wakefield.

A hermaphrodite *Fidonia atomaria*, with one male and one female antenna, two fore and one hind wing, light, like the female, and the other dark, like the male, from Bradford.

The capture on the wing of a specimen of the variety *varleyata* of *Abraxas grossulariata* at Huddersfield; the breeding of a brood of variety *varleyata* of *Abraxas grossulariata* at Huddersfield, the form breeding absolutely true; a black form of *Fidonia atomaria* on Harden Clough Moors, Huddersfield, and the occurrence of *Tephrosia biundularia* at Huddersfield this year, where it had not been seen for probably forty years, and the capture of *Selenia lunaria* at the same place, where it is always a great rarity

The capture of a beautiful lilac coloured variety (female), of *Smerinthus populi* (the Poplar Hawk Moth), at York, from which a large batch of eggs was obtained, and these have been successfully reared into the pupal stage.

*Sphinx ligustri* (the privet Hawk Moth), has been taken both in the larval and imago stages at Hatfield, and *Acronycta alni* at Edlington, and several specimens of *Cerigo cytherea* have been taken at Edenthorpe.

Twenty-six pupæ of *Amphidasis betularia* (the Peppered Moth), obtained at Edlington last winter, produced this year seventeen specimens of the variety *doubledayaria*, whilst nine specimens only were typical *betularia*.

A male *Orgyia gonostigma* was captured in Wheatley Wood, near Doncaster, early in September, and *Calligenia miniata* occurred at Sandall Beat, Doncaster.

Black forms of *Odontopera bidentata* are recorded from Leeds and Barnsley for the first time.

Mention should also be made of Mr. George T. Porritt's paper on "Melanism in Yorkshire Lepidoptera," read before the



members of the British Association, Section D, Zoology, in York. This excellent paper, by such a well-known authority on Melanism, should be in the hands of all Yorkshire Lepidopterists.

A full and detailed list of interesting notes (with names of the contributors) on the season 1906, compiled from records sent by numerous Yorkshire Lepidopterists to the Honorary Secretaries, will probably appear in an early number of the "Naturalist."

It is also suggested that the members of the Entomological Section hold an Annual Meeting at places to be determined on, prior to the Annual Meeting of the Y.N.U., and that an exhibition and examination of specimens be held at this meeting, also that one or more papers on entomological subjects be read.

The following were elected for 1907 :—

President—W. Hewett, York.

Secretaries—(For Coleoptera) E. G. Bayford, Barnsley ;  
(Lepidoptera) A. Whitaker, Barnsley, and  
T. A. Lofthouse, Middlesborough ; (Hymenoptera,  
Hemiptera, and Diptera) W. D. Roebuck, Leeds ; (Neuroptera,  
Orthoptera, and Trichoptera) G. T. Porritt, Huddersfield.

Representative on Executive—William Hewett, York.

Representatives on Committee of Suggestions—G. T. Porritt and W. Hewett.

**Conchological Section.**—Mr. J. E. Crowther reports :—This section has been officially represented at all the ordinary meetings of the Union during the summer, and although not many new records have been made, much good work has been done where the conditions were favourable. Reports of all the meetings have appeared in the "Naturalist."

At Ingleton Mr. Roebuck reported that thirty-one species had been noted (made up of twenty-nine land and two fresh water species), though their number is by no means representative of the district, which is very rich in land shells. The only finds worthy of mention were var. *violacae* of *Agriolimax agrestis*, and the abundance and very large size of *Arion circumscriptus*.

The Flambro' meeting was well attended, and though the weather was rather dry a fairly good list was made, in all twenty-eight species and five varieties, the most noteworthy being *Milax gagates* at Bempton, and var. *albolateralis* of *Arion ater* in some numbers near the same place.

Owing to the district being geologically unfavourable, Messrs. Taylor and Roebuck found the neighbourhood of Fewston and Swinsty Reservoir rather barren, only seven species of molluscs being noted, though one of these, *Vitria alliaria*, had not been previously recorded for the district.



At the Askern meeting Mr. J. W. Taylor reported that besides looking for land and fresh water shells, several mole-hills in the low-lying fields were examined for sub-fossil shells, which are very plentiful in some places. In all thirty-three species were found, and, as might be expected from the district, the greater part of these were aquatics. Of this number eight were found in the sub-fossil state only, seventeen in the living state only, and eight were found in both. The best record of the day, a fine var. *acuminata* of *Valvata piscinalis*, was taken in Campsall Park.

At Guisborough, probably the richest district visited during the summer, Mr. Roebuck reported twenty-four species, eight of these being slugs and sixteen terrestrial shell-bearers, no water shells being seen or even looked for. During this excursion Kildale was visited for the purpose of verifying the record of *Acanthinula lamellata* at that place. This was soon done, several being found, all of which were white or whitish, a form not before known to exist, and will probably be described as a new variety by Mr. Taylor in his Monograph.

The section is carefully considering the steps to be taken for the speedy completion of the list of Yorkshire Mollusca, already partly printed, and the active co-operation of the Leeds Conchological Club will be given in doing this, under the guidance of Mr. Taylor.

The following were elected for 1907 :—

President—J. E. Crowther, Elland.

Secretary—W. Denison Roebuck, F.L.S., Leeds.

Representative on Executive—J. E. Crowther.

Representative on Committee of Suggestions—J. W. Taylor.

**Botanical Section.**—Mr. J. F. Robinson writes :—It can again be reported of the Phanerogamic Section that there is a very real and continued interest in plant study (floristic) in the field, and this is borne out by the full and detailed reports that have appeared in the "Naturalist" after each Y.N.U. excursion. Further, in the same journal, during the year now nearing its close, there have appeared important notices of discoveries made by the private enterprise of members of the Union or of the affiliated societies.

In the Spring, near Ingleton, a very comprehensive list of plants was made out by Dr. G. W. Smith whilst pursuing the important work of the Botanic Survey of Yorkshire, and Mr. C. A. Cheetham added to the above. Very excellent results, too, were obtained at the Whitsuntide excursions to Flamborough, and from copious notes made on the spot by the many botanists who attended, one had a most complete knowledge of the spring flora of the great chalk headland. One species had not previously been noted there, the little grass, *Aira præcox*. Askern

Bog and vicinity in mid-autumn seemed rich in flowering species, and gave a very good account of its plant resources.

Of isolated records, referred to above, it may be mentioned that Mr. P. Fox Lee, in the pages of the "Naturalist" early in the year, notified the first record for the North Riding of the dwarf Centaury, *Erythræa pulchella*. Then the revival of the sight of the beautiful slipper-orchis *Cypripedium Calceolus*, which has been observed in no fewer than three Yorkshire stations during the past summer, is one of those marvels of plant phenomena which should add zest to further search in many directions besides the orchis one. We thought the "slipper" had almost vanished from our calcareous xerophilous tracts. We can still pray—*longe C. Calceolus floreat*. Quite recently a new record for the East Riding has been made by Mr. Herbert Cox, of Willerby, who for the last two years has known of the existence of the rare dwarf thistle *Cnicus* (or *Carduus*) *acaulis*, near Beverley. Indications these, that

"The ancient spirit is not dead."

The following were elected for 1907 :—

President—W. G. Smith, Ph.D., Leeds.

Secretaries—H. H. Corbett, Doncaster ; J. F. Robinson, Hull

Representative on Executive—P. Fox Lee.

Representative on Committee of Suggestions—S. Margerison

**Geological Section.**—There has been a large attendance of the members of this section at all the meetings, and much useful work has been done. At Ingleton and Flambro' the geologists constituted a majority of all those present. Seldom have more examples of important geological phenomena been seen in a few hours than in the former district, and the opportunity was taken of inaugurating an important piece of work, namely, the zoning of the lower Carboniferous rocks of Yorkshire. The President of the section, Mr. Cosmo Johns, has been foremost in this, having, with some assistance from other members, devoted considerable time to the examination of sections and collection of specimens in North-west Yorkshire. Some of the results have already been published. The Flambro' meeting afforded a splendid opportunity of examining the Neocomian rocks under favourable conditions, and renewing acquaintance with the fine sections of chalk exposed in the cliffs of the headland and adjacent. At the Washburn Valley meeting attention was devoted to the "Shell Bed" in the Millstone Grit series. At Askern, the Permian rocks were inspected, and the recent deposits of the district gave rise to much discussion as to their origin. At Guisborough special attention was paid to the Cleveland ironstone, and on one of the evenings the President of the section read a paper on "Jurassic Ironstone Deposits of Great Britain." Mr. M. B. Cotsworth also read a paper on "The Continuous Glacial Period"; both giving

rise to animated discussions. It would be superfluous to give more details here, as full reports of the work done at each meeting have appeared in the "Naturalist." The members of the section desire to place on record their appreciation of the services rendered from time to time by the Rev. Lower Carter, M.A., who has recently left Yorkshire.

The following were elected for 1907 :—

President—Cosmo Johns, Sheffield.

Secretaries—A. J. Stather, Hull ; E. Hawkesworth, Leeds.

Representative on Executive—Godfrey Bingley.

Representative on Committee of Suggestions—Prof. Kendall.

### COMMITTEES.

**The Yorkshire Micro-Zoology and Micro-Botany Committee.**—The Excursions held during 1906 at Flambro' in June, and Askern in July, have been attended by members of this Committee, and detailed reports have appeared in the "Naturalist." We have still to deplore a lack of workers in this department.

The following were elected for 1907 :—

Chairman—M. H. Stiles, Doncaster.

Convener—R. H. Philip, Hull.

Representative on Executive—H. Moore, Rotherham.

Representative on Committee of Suggestions—W. West, Bradford.

Other Members—J. N. Coombe, Sheffield ; Prof. A. Denny, Sheffield ; F. W. Mills, Huddersfield ; and Dr. H. C. Sorby, Sheffield.

**The Yorkshire Coleoptera Committee** reports as follows :—During 1906 much work has been done by the various members. The excursions have been attended by one or more representative members, and most of the species observed recorded in the "Naturalist." Amongst these, mention might be made of *Ancistronycha abdominalis*, F., taken at Fewston and handed to Mr. W. D. Roebuck. In addition, several interesting species have been discovered, viz. :—By Mr. M. L. Thompson, *Donacia affinis*, Kunz., *Aphthona lutescens*, Gyll., *Ceuthorrhynchideus floralis*, Payk., at Askern ; *Cryptophagus acutangulus*, Gyll., at Saltburn ; all but the third of these are new to the county list. The occurrence of *Nacerdes melanura* at Filey, and of *Coelambus versicolor*, Schal. (in plenty) at Snainton are recorded by Rev. W. C. Hey, M.A.

Much good work has been done in the Headingley district by Mr. E. W. Morse, who has found several uncommon species :—*Hydroporus ferrugineus*, Steph., *Hydraena pygmæa*, Wat., *Epuræa angustula*, Er., *Mycetophagus piceus*, F., *Dorcatoma*



*flavicornis*, F., *Cryphalus binodulus*, Ratz.; the fourth and fifth of these being additions to the county list.

By the determination of specimens taken near Doncaster by Dr. Corbett and Mr. E. G. Bayford, *Carpophilus sexpustulatus*, F., has been restored to the British list, from which it was deleted in 1883.

Taking the year as a whole, the results may be looked upon as satisfactory, although beetles have been less plentiful than in former years.

The list of Yorkshire Coleoptera, compiled by Messrs. Thompson and Bayford for the Victoria County History of Yorkshire, has occupied a large portion of the year. It is now in the printer's hands, and will have the distinction of being the first complete list of the beetles indigenous to the county ever published.

For the coming year the following were elected :—

President—M. L. Thompson.

Convener—E. G. Bayford.

Representative—H. Ostheide.

Other Members—H. H. Corbett, J. W. Carter, W. Foggitt, J. P., J. Gardner, Rev. W. C. Hey, M.A., E. W. Morse, W. D. Roebuck, and T. Stainforth.

**Glacial Committee.**—Mr. H. Culpin and Mr. George Grace have been continuing their observations around Doncaster, and especially in the neighbourhood of Tickhill, where they report a boulder clay exposed by a recent railway cutting. Lake District erratics are again in evidence.

This Committee takes the place of the Boulder Committee, and will observe and record, on a broader basis, glacial phenomena generally within the county.

Such a Committee will have a wider outlook, which will of course include the distribution of erratic rocks.

The following were elected for 1907 :—

Chairman—Prof. P. F. Kendall.

Conveners—J. H. Howarth, J. P., Halifax, and J. W. Stather, Hull.

Representative on Executive—E. Hawkesworth, Leeds.

Representative on Committee of Suggestions—Prof. Kendall.

Other Members—Rev. W. L. Carter, M.A., Birkenhead; Rev. E. M. Cole, M.A., Wetwang; H. H. Corbett, Doncaster; W. Gregson, Baldersby; E. Hawkesworth, Leeds; W. Simpson, Settle; J. W. Stather, Hull; F. F. Walton, Hull; H. Brantwood Muff, Edinburgh; J. E. Wilson, Ilkley; L. Glauert, Sheffield; H. Culpin, Doncaster; Dr. Dwerryhouse, Leeds; H. C. Grace, Doncaster; G. Bingley, Leeds; A. J. Stather, Hull; E. E. Gregory, Bingley; and J. J. Burton, Nunthorpe.



**Yorkshire Bryological Committee.**—Mr. J. J. Marshall reports :—I have little to report in my department this year. Only one specimen of moss has been submitted to me from the Hull members. It is a good find, but instead of being marked very rare as it was 100 years ago, I now hold the opinion it is very common in our chalk pits or quarries, but so minute as to escape observation. The plant is *Seligeria calcarea* (Dicks.) Br. Sch., from Ferriby or Hessle, *vide* J. F. Robinson. I also discovered it in quarry near Skidby or Cottingham. Another interesting moss was growing there, it is exceedingly common yet I have never seen it elsewhere bearing the fruit or capsule. Its name is *Hylocomium triquetrum* (Linn.).

The following were elected for 1907 :—

Chairman—M. B. Slater, Malton.

Convener—J. J. Marshall, Beverley.

Representative on Executive Committee—W. Ingham, York.

Representative on Committee of Suggestions—W. Ingham.

Other Members—R. Barnes, Harrogate ; Dr. R. Braithwaite, London ; L. J. Cocks, London ; C. Crossland, Halifax ; W. West, Bradford ; and C. A. Cheetham, Armley.

**Mycological Committee.**—Mr. C. Crossland writes:—This year more interest has been taken in mycology by the general body of members attending the several excursions than heretofore. Specially good collections were made at the Flambro' and Guisboro' meetings. The result has been several additions to the records of Yorkshire Fungi, and one new to Great Britain. These have been, or will in due course be published in the "Naturalist."

Though the weather had been somewhat against a rich harvest of fungi at the time of the annual foray (Sep. 22-26), many interesting species were met with ; among them *Lentinus suffrutescens* Fr., new to this country, it was brought by the Milnes Bridge Society from their district.

1906 has been a somewhat peculiar year for fungi. In January Agarics appeared in plenty, encouraged by the unusually wet, mild winter (1905-6), up to the end of that month. Mushrooms were reported from meadows in Cleveland and other places. Blewits were plentiful in the Halifax and Hebden Bridge districts ; and many other common agarics appeared out of due season. The comparatively dry summer held the weight of fungi back two or three weeks behind their usual time of appearance. The mid-October rains brought out fungi of all kinds in abundance.

For the ensuing year the Committee will be composed of the following members :—

President—G. Masee, Kew.

Convener—C. Crossland, F.L.S.

Representative on Executive—C. Crossland.

Other Members—Rev. W. Fowler ; Harold Wager, F.R.S. ; Alfred Clarke ; W. N. Cheesman ; Thomas Gibbs ; C. H. Broadhead ; J. W. H. Johnson, B.Sc. ; and R. H. Philip.

### The Yorkshire Fossil Flora and Fauna Committee.

Mr. R. Kidston, F.R.S., of Stirling, writes that so far as the fossil flora of Yorkshire is concerned the work of the committee is still being carried on, though he has not received much assistance since the last meeting. During the year some light has been thrown on the distribution of the Yorkshire Carboniferous flora, and a report for our Transactions is well in hand.

*Faunal Report.*—At the meeting of the General Committee of the Union in Bradford last year, permission was given to the Geological Section to extend the scope of the Fossil Flora Committee, by including the Fauna of the Carboniferous rocks, and also to add new members to the committee. This was done at a subsequent meeting of the section, and several well-known workers in Carboniferous Geology were induced to join the Union and the committee. As a result, a considerable amount of work, most of it of pressing importance, has been accomplished, and if the Committee continues to receive the same measure of support that has been the case this year, it should be possible to record during the next few years useful contributions to the zonal classification of the Yorkshire Carboniferous rocks. Arrangements have been made by members of the Committee and their friends to carefully follow the sinking of several colliery shafts, with a view of determining the relative position of any marine fossiliferous bands in the coal-measures. The importance of this work cannot be over-estimated. The observations, will, of necessity, occupy much time, and rapid results should not be looked for. Other members of the committee have been engaged in working out the faunal succession in the Lower Carboniferous rocks, and a certain amount of progress has been made. It is hoped that next year work will be started on the Millstone Grit series, by members favourably located for work on this important series of rocks. Such a favourable report would not have been possible had it not been for the enthusiastic manner in which so many Yorkshire members of the committee have entered into the work, and the value of what has been accomplished has been enhanced by the gratifying assistance that has been rendered to the workers by Dr. Wheelton Hind, Mr. Walcot Gibson, and Dr. Arthur Vaughan.

C. J.

The following were elected for 1907 :—

Chairman and Convener—R. Kidston, F.R.S., Stirling.

Representative on Executive—H. Culpin, Doncaster.

Representative on Committee of Suggestions—Cosmo Johns, Sheffield.

Other Members—R. Law, Hipperholme; W. West, Bradford; C. Bradshaw, Sheffield; P. F. Kendall, Leeds; Cosmo Johns, Sheffield; G. Grace, Doncaster; H. Culpin, Doncaster; S. Nettleton, Ossett; E. E. Gregory, Bingley; L. Glauert, Sheffield; Wheelton Hind, Stoke-on-Trent; Walcot Gibson, London; E. Hawkesworth, Leeds; and Miss Johnstone, B.Sc., Bradford.

**Geological Photographs Committee.**—The object of this committee has been kept well to the front during the year, and a few prints have been added to the now exceedingly large and valuable series of Yorkshire photographs of geological interest, contained in the Union's albums. It can be safely said that the Union possesses a very representative set of photographs, illustrating the geology of our county in all its various phases. It is necessary to secure large numbers of prints, and to watch and photographically record new sections as they occur, whether in the cliffs, or railway cuttings, or in dock, drainage, or similar excavations. Towards photographing such sections, often only temporary, the committee is now devoting itself, and the Secretary would be very glad at any time to learn of an exposure having been made which is worthy of record.

The following were elected for 1907 :—

Chairman—Prof. P. F. Kendall, Leeds.

Convener—A. J. Stather, Hull.

Representative on Executive—J. H. Howarth, J.P., Halifax.

Representative on Committee of Suggestions—Godfrey Bingley, Leeds.

Other Members—J. J. Burton, Nunthorpe; H. H. Corbett, Doncaster; and J. H. S. Dickenson, Sheffield.

**The Yorkshire Coast Erosion Committee.**—Mr. F. F. Walton reports that from a geological point of view no complaint can be made of the way in which the sea has eroded the Yorkshire coast during the past twelve months!

The following were elected for 1907 :—

Chairman—F. F. Walton, Hull.

Convener—E. R. Matthews, Bridlington.

Representative on Executive—F. F. Walton.

Representative on Committee of Suggestions—E. R. Matthews.

Other Members—P. W. Loten, Easington; J. T. Sewell, Whitby; J. W. Stather, Hull; W. Y. Veitch, Middlesborough; J. J. Burton, Nunthorpe; and Rev. E. M. Cole, Wetwang.



## Yorkshire Marine Biology Committee.

[No report received.]

The following were elected for 1907 :—

Chairman—Dr. H. C. Sorby, F.R.S., Sheffield.

Convener—Rev. F. H. Woods, Bainton.

Representative on Executive—E. Howarth, Sheffield.

Other Members—Rev. W. C. Hey, M.A., West Ayton ; G. Masee, Kew ; T. H. Nelson, Redcar ; S. Lister Petty, Ulverston ; J. Fraser Robinson, Hull ; F. W. Fierke, Hull ; W. Denison Roebuck, Leeds ; Rev. H. Smith, M.A., Redcar ; and Arnold T. Watson, Sheffield ; and J. D. Butterell, Wansford.

**Wild Birds' and Eggs' Protection Committee.**—Mr. R. Fortune writes :—Your Committee have to report an active and fairly successful year. They have endeavoured to bring the three County Councils into line, so as to simplify the Wild Birds' Protection Orders for the County, but so far without much success.

Through the efforts of the Committee, ample protection was afforded to the pair of Peregrine Falcons that put in an appearance on Bempton Cliffs this season, and it is pleasant to report that three young were successfully reared and that both the old and the young birds got safely away. This is the more significant when it is borne in mind that it is at least 35 years since any young Falcons were reared on that part of the coast, and it is several years since any have attempted to nest there.

A reward for their protection was offered and paid to the climbers by the officers of the Committee. The climbers loyally carried out the agreement made, despite several bribes offered by individuals not resident in the County, for the young birds. Although the reward offered was subscribed by the officers of the committee, the general public evinced a good deal of interest in the matter, and one gentleman, W. H. St. Quintin, Esq., J.P., voluntarily forwarded £1 towards the Protection Fund.

Another pair of Peregrines attempted to nest on the slopes of Ingleborough, but unsuccessfully, owing to some local individuals endeavouring to shoot the Falcons. With regard to this episode, it is gratifying to note the increase of public opinion in the matter of the protection of wild nature; this caused such a hue and cry to be raised, led by the Y.N.U. Committee, ably supported by the Royal Society for the Protection of Birds, that the police admitted that they were OBLIGED to institute proceedings against the culprit ! The prosecution did not result in a conviction, but as the magistrates observed, attention had been drawn to the matter, and the police acknowledged to the great interest taken by the public, that nothing but good could come from the action of your committee in spurring on the police.



Your committee would like to employ a paid watcher at Spurn Point for a few months during the breeding season. They appeal to all members and associates of the Y.N.U., and to all bird lovers in the county for small subscriptions in order to enable them to carry out this necessary work and also that they may have a small sum in reserve for emergency cases.

We have heard with deep regret of the continual persecution of the Airedale Black-headed Gulls, at their nesting place on the moors surrounding the Fly Flatts Reservoir, belonging to the Halifax Corporation. This persecution is the result of unfounded and mistaken charges made by the local gamekeepers that the gulls destroyed the eggs and young of the Red Grouse. The charge is ridiculous. Every nest has been destroyed this season, and many of the birds shot.

It is to be hoped that the West Riding County Council will protect these birds without delay, as they are not only a pleasant feature of the landscape, but are extremely valuable as scavengers on the sewage beds and along the river; they also render valuable assistance to the farmers on the land.

Your Committee would further draw the attention of the County Councils and the police authorities to the fact that Plovers' eggs are offered for sale by some game dealers in our cities several weeks after the time has expired for taking them, and at a much longer time than they could be sold as fresh eggs if they had been legally taken. We would suggest that the County Councils in their Wild Birds' Protection Orders state that "No Plovers' eggs shall be taken nor exposed for sale" say after the 15th day of April.

Since the above was written, Mr. Fortune has attended a meeting of the West Riding County Council, at their request.

The matter of a more comprehensive Bird Protection Order was thoroughly gone into, the result being that one will be applied for at once, a much more stringent one than that originally selected by the Union, but of that we must not complain. Mr. Fortune was very gratified to find the feeling for increased protection so strong among the members of the County Council.

The following were elected for 1907 :—

Chairman—W. H. St. Quintin, J. P., Rillington, York.

Conveners—R. Fortune, Harrogate, and T. H. Nelson, Redcar.

Representative on Executive—H. B. Booth, Shipley.

Representative on Committee of Suggestions—W. Wilson, Skipton-in-Craven.

Other Members—F. Boyes, Beverley; T. Bunker, Goole; H. E. Dresser, London; J. Gerrard, Manchester; Rev. E. P. Knubley, M.A., Steeple Ashton; C. Leatham, Wakefield; G. T. Porritt, Huddersfield; Rev. W. T. Travis, M.A., Ripley; K. McLean, Harrogate; W. H. Parkin, Shipley; A. White, Leeds; L. Gaunt, Leeds; and H. S. Smith.

**Yorkshire Botanical Survey Committee.**—Steady progress is being made with the work which is the special object of this Committee. Ingleton was selected as the special excursion for organised Botanical Survey; the results were satisfactory, and a report was published in the "Naturalist" for June. Useful reports have also been published by members of the Committee in connection with the Flamborough and Askern excursions. Members took part in the preparation of the botanical part of the handbook for the York meeting of the British Association. The very short notice given of the week-end excursion in connection with this meeting completely disorganised a projected Botanical Survey excursion in this interesting area. The Survey begun at the Scarborough Y.N.U. meeting in 1904 of the area from the Vale of Pickering to the Tees, including the Cleveland and the Hambletons, has been almost completed by members of the Y.N.U., and will be issued during 1907. It is also gratifying to be able to report that workers in several parts of the county are now engaged in investigations which promise to contribute materially to knowledge on the relation of plants to environment.

The following were elected for 1907:—

Chairman—T. W. Woodhead, Huddersfield.

Convener and Representative on Executive and Committee of Suggestions—Dr. W. G. Smith, Leeds.

Other Members—J. F. Robinson, Hull; C. Waterfall, Hull; W. B. Crump, Halifax; H. H. Corbett, Doncaster; J. Hartshorn, Leyburn; J. W. H. Johnson, Thornhill; W. E. L. Wattam, Huddersfield; P. F. Lee, Dewsbury; F. Elgee, Middlesborough; H. J. Wilkinson, York; A. Wilkinson, York; W. Jackson, Goole.

**Committee of Suggestions for Research.**—The suggestion for a standard method of dividing Ordnance Maps used in recording data of Natural History has been further discussed; there is now no reason why a working plan should not be adopted, but a meeting will be necessary for arrangement of details.

Members are again reminded that co-operation is still necessary for the carrying out of the proposals made in the "Naturalist," May, 1904. An important suggestion has been received from Mr. Hugh Richardson (York), on the possible relation of isolated species of Lepidoptera to present or past distribution of plants. The whole problem of the distribution of insects and their food plants is here involved, and offers a wide field for observations.

The subject of Meteorological Observations by Local Scientific Societies, referred to at the Conference of Delegates at the British Association, is one which would be particularly valuable in relation to the distribution of plants and animals.

The following were elected for 1907 :—

Chairman—Prof. P. F. Kendall, Leeds.

Convener—Dr. W. G. Smith, Leeds.

Representative on Executive—P. F. Kendall.

Representatives of Committees and Sections—A. White, Leeds; G. T. Porritt, Huddersfield; W. Hewett, York; J. W. Taylor, Leeds; J. F. Robinson, Hull; W. West, Bradford; W. Ingham, York; J. E. Wilson, Ilkley; Godfrey Bingley, Leeds; F. F. Walton, Hull; and K. McLean, Harrogate.

**Hymenoptera, Diptera, and Hemiptera Committee.**  
—A new Committee of Research is formed, designated as above, for the purpose of framing new lists of Yorkshire Hymenoptera, Diptera, and Hemiptera for future publication in the Transactions, and of stimulating the study of insects of those orders in the county. The Committee were elected as follows :—

Chairman—G. T. Porritt, Huddersfield.

Convener—W. Denison Roebuck, Leeds.

Referees—Percy H. Grimshaw, for Diptera; Edward Saunders, Claude Morley, Rev. F. D. Morice, M.A., for Hymenoptera.

Other Members—Edwin G. Bayford, Barnsley; Rev. W. C. Hey, M.A., West Ayton; M. Lawson Thompson, Saltburn; J. W. Carter, Bradford; H. H. Corbett, Doncaster; and T. Stainforth, Hull.

**Soppitt Memorial.**—Dr. T. W. Woodhead writes :—This collection has been consulted by 10 members during the year, and 37 books and papers have been issued. I wish to thank Mr. S. L. Mosley, for acting in my stead during my absence from the country. Further progress has been made in permanently mounting the Fungi in this collection, and Mr. C. Crossland, F.L.S.,



has added a large number of mosses, all collected by the late Mr. Soppitt.

The Committee consists of Messrs. C. Crossland, G. T. Porritt, and W. West (Trustees), with Mr. T. W. Woodhead as Librarian.

**British Association.**—During the year the meeting of the British Association was held at our county capital, the birth-place of the Association three-quarters of a century ago, and certainly it can be said that no efforts had been spared by the citizens of York to make the meeting a success, from a social point of view. Unfortunately, however, the numbers attending the meeting were by no means satisfactory, and did not reach the number which attended at York twenty-five years ago. This was probably partly due to the fact that the meeting was held in the first week in August instead of in September.

The scientific work accomplished at the York meeting, so far as it affects Yorkshire, was summarised in the September number of our journal, the "Naturalist," the Secretary of the Union being successful in obtaining for publication most of the papers bearing upon Yorkshire, either in full or in abstract form. It must be gratifying to the Union to find that the only natural history paper read at the York meeting, which was voted to be printed *in extenso* in the British Association Report, was that presented by our past-President, Mr. Porritt, on the subject of melanism.

**CONFERENCE OF DELEGATES AT THE BRITISH ASSOCIATION.**—As the appointed delegate from the Yorkshire Naturalists' Union, the Hon. Secretary, Mr. Sheppard, attended both meetings of the Conference of Delegates from corresponding societies attending the British Association meeting. At the first, Dr. H. R. Mill addressed the members on "Meteorological Observations by Local Scientific Societies," and complained of the inadequacy of the records from the East and North Ridings of Yorkshire. The second meeting was devoted to a discussion on "The Desirability of Promoting County Photographic Surveys," which was opened in a paper prepared by Mr. W. Jerome Harrison. It was agreed to recommend that a committee be appointed next year to promote photographic survey work in the British Islands, the Secretary of the Yorkshire Naturalists' Union being one of the six suggested members of such committee.

Mr. T. Sheppard was appointed delegate from the Union for the 1907 meeting at Leicester.

**The "Naturalist."**—From the Union's point of view the arrangement made a year ago with Messrs. A. Brown & Sons, the Union's publishers, in reference to the "Naturalist," has



proved most satisfactory. Not only has the firm kept to its arrangement and produced a magazine equal in every way, as regards the number of pages and illustrations, to the 1905 volume, but they have even exceeded their undertaking in a most generous manner. This year the volume contains 30 plates, and the number of pages and illustrations is also far in excess of last year's number. In March, July, and September additional sheets were included in the magazine without additional expense to the members of the Union or to the subscribers. In connection with the special British Association number, issued in September, the firm printed 32 pages extra in the magazine, and reproduced portraits of some of the Presidents. This number can be safely said to contain the scientific results of the British Association so far as they affect the northern counties.

From a scientific point of view, the "Naturalist" for 1906 can be safely said to have fully maintained, if not exceeded, the value it has had in recent years. Whilst most of the former contributors still favour the journal with notes, we welcome in our 1906 volume the appearance of several contributions by other well known authorities. Palæontology has been particularly well represented, and largely in connection with the work upon the Yorkshire Carboniferous rocks, papers have appeared from the pens of Messrs. Cash, Cosmo Johns, Wheelton Hind, Walcot Gibson, Weiss, and Miss Stopes. The rocks of the Cretaceous system have also received unusual attention, and upon these, notes have appeared by Messrs. C. Davies Sherborn, W. Hill, J. W. Stather, H. C. Drake, C. G. Danford, A. Burnet, and G. C. Crick. Important notes referring to other systems, and to Glacial Geology, have also been published. The botanists have been well catered for, and in the forthcoming volume will be treated even more generously. The zoologists have been favoured by Mr. A. Whitaker's most valuable notes on the habits of bats; and more ornithological notes than usual have appeared, though with this branch, as with entomology, an improvement might be made. By means of the "Notes and Comments," and "Northern News," columns, the readers of the "Naturalist" have been kept well and promptly informed of papers and notes likely to interest them, which have appeared elsewhere; these items, to some extent, taking the place of the bibliographies formerly appearing in the journal. The excursions of the Yorkshire Naturalists' Union have been fully reported in the journal, and in many cases the reports were illustrated. A new feature—and a useful one—is the series of "Prominent Yorkshire Workers" which has been started, the notice of Dr. H. C. Sorby (with portrait and list of monographs and papers) being admirable. Dr. Woodhead's absence abroad, for most of the year, has thrown the work in connection with the 1906 volume very largely upon the shoulders of Mr. Sheppard.

**The Victoria County History.**—During the year several of the members of the Union have been engaged on the preparation of articles and lists, for publication in the forthcoming 'Victoria History of the County of York.' The general supervision of the lists of insects has been in the able and experienced hands of Mr. G. T. Porritt, who has himself supplied the lists of Orthoptera, Neuroptera, and Lepidoptera, while the Coleoptera have been done by Messrs. E. G. Bayford and M. L. Thompson, the Hymenoptera by Mr. W. Denison Roebuck, and the Diptera by Mr. Percy H. Grimshaw. Prof. Kendall is responsible for the chapter dealing with the Geology, &c. The Union is to be congratulated upon the part its members have played in connection with this excellent undertaking.

**The Presidency for 1907** has been offered and accepted by Mr. C. Crossland, F.L.S., of Halifax.

The Union desires to express its indebtedness to Mr W. Eagle Clarke for his services during 1906.

**The Financial Position of the Union.**—This shows some improvement during the year. The General Account of Receipts and Payments, including the "Naturalist," shows a credit balance of £1 9s. 7d., as compared with a deficiency last year of £31 13s. 11d. This is after paying this year the £31 owing to the Hon. Secretary for clerical assistance in 1905, as well as £28 for the year 1906.

The "Naturalist" shows, for the first time, receipts in excess of payments, and has still further strengthened its position.

The General Balance Sheet shows a deficiency of Assets to Liabilities of £14 3s. 7d., as compared with £21 18s. 5d. last year.

The sum of £58 16s. 7d. was owing to the Hon. Treasurer

**Secretaryship.**—To assist the Hon. Secretary as much as possible, will all those members who can, kindly give instructions to their bankers to pay their subscriptions in to the Union's bankers direct. Forms for this purpose will be gladly sent on application being made to the Secretary of the Union.

The following is the Hon. Treasurer's Statement of Receipts and Payments during the 11 months ending November 30th, 1906:—

**YORKSHIRE NATURALISTS' UNION.**

**RECEIPTS AND PAYMENTS ACCOUNTS,  
11 months ending 30th Nov., 1906.**

| <b>RECEIPTS.</b>   |     |       |      | <b>PAYMENTS.</b> |  |
|--|-----|-------|------|------------------|--|
|  | £   | s. d. | £    | s. d.            |  |
| Levies paid by Associated Societies—                             |     |       |      |                  |  |
| Arrears ... ..   | 2   | 14 7  |      |                  |  |
| 1906 ... ..  | 8   | 5 6   |      |                  |  |
|  |     |       | 11   | 0 1              |  |
| Subscriptions paid by Members—                                   |     |       |      |                  |  |
| Arrears ... ..   | 12  | 5 0   |      |                  |  |
| 1906 ... ..  | 107 | 2 0   |      |                  |  |
| 1907 ... ..  | 1   | 6 6   |      |                  |  |
|  |     |       | 120  | 13 6             |  |
| Sales of Publications—   |     |       |      |                  |  |
| Lee's Flora of West Yorkshire ... ..                             | 2   | 1 0   |      |                  |  |
| West's Alga Flora ... ..   | 0   | 3 0   |      |                  |  |
| Crossland's Fungus Flora ... ..                                  | 0   | 10 11 |      |                  |  |
| Porritt's Lepidoptera ... ..                                     | 0   | 18 7  |      |                  |  |
| Baker's North Yorkshire ... ..                                   | 11  | 15 11 |      |                  |  |
|  |     |       | 15   | 9 5              |  |
| Transactions ... ..  |     |       | 3    | 2 6              |  |
| Birds Protection a/c (Spurn) ... ..                              |     |       | 1    | 1 0              |  |
| "Naturalist" Receipts, 1906 ... ..                               | 130 | 18 4  |      |                  |  |
|  |     |       | £282 | 4 10             |  |
|  |     |       |      |                  |  |
| Subscription to Commons and Footpaths Preservation Society... .. |     |       | 0    | 10 6             |  |
| Clerical Assistance, 1905 ... ..                                 | 31  | 0 0   |      |                  |  |
| "    "    1906 ... ..  | 28  | 0 0   |      |                  |  |
|  |     |       | 59   | 0 0              |  |
| Expenses of Meetings... ..                                       |     |       | 40   | 11 9             |  |
| Printing ... ..  |     |       | 24   | 14 8             |  |
| Postages, Carriage, &c. ... ..                                   |     |       | 19   | 11 4             |  |
| Transactions, Postage ... ..                                     |     |       | 5    | 7 4              |  |
| Rent of Room, Hull ... ..  |     |       | 3    | 18 4             |  |
| Office Requisites ... ..   |     |       | 4    | 7 2              |  |
| Zoological Record—   |     |       |      |                  |  |
| Subscriptions for 1905 and 1906 ... ..                           |     |       | 3    | 0 0              |  |
| C. Crossland, o/a of Fungus Flora—                               |     |       |      |                  |  |
| Amounts received 1905 ... ..                                     | 1   | 17 7  |      |                  |  |
| "    "    1906 ... ..  | 0   | 10 11 |      |                  |  |
|  |     |       | 2    | 8 6              |  |
| Cost of Publications—  |     |       |      |                  |  |
| Baker's North Yorkshire ... ..                                   | 0   | 7 6   |      |                  |  |
| Birds of Yorkshire ... ..  | 1   | 9 7   |      |                  |  |
|  |     |       | 1    | 17 1             |  |
| Sundry Expenses ... ..   |     |       | 1    | 10 3             |  |
| "Naturalist" Payments, 1906 ... ..                               | 113 | 18 4  |      |                  |  |
| Balance ... ..   | 1   | 9 7   |      |                  |  |
|  |     |       | £282 | 4 10             |  |

**YORKSHIRE NATURALISTS' UNION.**

**BALANCE SHEET as at 30th Nov., 1906.**

**LIABILITIES.**

|   | £  | s. | d. | £          | s.        | d.       |
|---|----|----|----|------------|-----------|----------|
| Subscriptions received in advance for "Birds of Yorkshire" ... ..           |    |    |    | 4          | 4         | 0        |
| Subscriptions received in advance ...                                       |    |    |    | 2          | 8         | 0        |
| A. Brown & Sons, Ltd.—<br>Due for "Naturalists" sent to Life Members ... .. |    |    |    | 7          | 5         | 0        |
| Exchanges ... ..  |    |    |    | 7          | 2         | 6        |
| Subs. in arrears, "Naturalist," 1906  | 19 | 14 | 6  |            |           |          |
|   |    |    |    | 34         | 2         | 0        |
| Amount due Hon. Treasurer ... ..  |    |    |    | 58         | 16        | 7        |
|   |    |    |    | <u>£99</u> | <u>10</u> | <u>7</u> |

**ASSETS.**

|  | £  | s. | d. | £          | s.        | d.       |
|--|----|----|----|------------|-----------|----------|
| Subscriptions in arrears—<br>"Naturalist," previous to 1906 ... .. | 3  | 11 | 6  |            |           |          |
| "Naturalist," 1906 ... ..  | 19 | 14 | 6  |            |           |          |
|  |    |    |    | 23         | 6         | 0        |
| General Account, previous to 1906 ... ..                           | 30 | 7  | 0  |            |           |          |
| General Account, 1906 ... ..                                       | 21 | 14 | 0  |            |           |          |
|  |    |    |    | 52         | 1         | 0        |
| Amount due for Sale of Exchanges                                   | 10 | 0  | 0  |            |           |          |
| Balance ... ..   | 14 | 3  | 7  |            |           |          |
|  |    |    |    | <u>£99</u> | <u>10</u> | <u>7</u> |

J. H. HOWARTH, *Hon. Treasurer.*

**"THE NATURALIST."**

**RECEIPTS AND PAYMENTS ACCOUNTS,**

**11 months ending 30th Nov., 1906.**

**RECEIPTS.**

|   | £   | s. | d. | £           | s.        | d.       |
|---|-----|----|----|-------------|-----------|----------|
| Subscriptions received—<br>Arrears ... .. | 14  | 6  | 2  |             |           |          |
| 1906 ... ..                               | 104 | 0  | 4  |             |           |          |
| 1907 ... ..                               | 1   | 1  | 6  |             |           |          |
|   |     |    |    | 119         | 8         | 0        |
| Sales—<br>"Naturalist" ... ..             | 2   | 17 | 8  |             |           |          |
| Reprints ... ..                           | 1   | 3  | 0  |             |           |          |
| Binding a/c, &c. ... ..                   | 2   | 9  | 8  |             |           |          |
|   |     |    |    | 6           | 10        | 4        |
| Recognition Fee (A. Brown & Sons, Ltd.)   | 5   | 0  | 0  |             |           |          |
|   |     |    |    | <u>£130</u> | <u>18</u> | <u>4</u> |

**PAYMENTS.**

|  | £           | s.        | d.       |
|--|-------------|-----------|----------|
| A. Brown & Sons, Ltd ... ..                        | 104         | 0         | 4        |
| " " Additional ... ..                              | 5           | 0         | 0        |
| " Subscriptions received in advance in 1905 ... .. | 4           | 18        | 0        |
| Balance ... ..                                     | 17          | 0         | 0        |
|  | <u>£130</u> | <u>18</u> | <u>4</u> |

Examined, compared with Vouchers, and found correct.

J. FRASER ROBINSON.





# YORKSHIRE NATURALISTS' UNION.

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## FORTY-SIXTH ANNUAL REPORT, FOR 1907.

*Presented at Halifax, Dec. 14th, 1907.*

The Executive Committee of the Yorkshire Naturalists' Union has pleasure in presenting the following report of the work of the Union during the past year.

The **Forty-fifth Annual Meeting** was held at York on Saturday, December 15th, 1906, the occasion being of peculiar interest from the fact that it was the 200th meeting of the Union. In the morning the members were conducted round the premises of the British Botanical Association at Acomb, under the direction of Dr. Burtt.

At the General Meeting, Mr. W. Eagle Clarke delivered an admirable address entitled "Bird Life in the Antarctic," which was illustrated by a beautiful series of lantern slides. Mr. Eagle Clarke, having had the ornithological collections acquired by the Scottish and Antarctic expeditions submitted to him for examination and description, was able to give much interesting information at first hand.

In view of some recent comments in the press, the members of the Union unanimously passed a resolution congratulating the Hull Corporation on the method of arrangement, etc., of the specimens in the Hull Museum.

After the Address, a *Conversazione* was held in the Museum at York, by the kind permission of the York Philosophical Society. The best thanks of the Union are due to the York and District Field Naturalists' Society for their local arrangements and entertainment, and to the York Philosophical Society for allowing the members to make use of the Lecture Theatre and the Museum.

The usual **Six Field Meetings** have been held during the summer, and in most cases have been very fully reported upon in the pages of "The Naturalist." These reports have been further increased in value by the illustrations which the publishers have given. The excursions were held as follows:—

- 1907. May 18th to 20th (Whit Week-end)—Robin Hood's Bay.
- June 22nd (Saturday)—South Cave.
- July 11th (Thursday)—Thorne Waste.
- August 3rd to 5th (August Bank Holiday Week-end)—Arnccliffe.
- September 7th (Saturday)—Horton-in-Ribblesdale.
- September 21st to 26th (Fungus Foray)—Grassington, for Grass Woods and Bolton Woods.

**Robin Hood's Bay.**—In the May "Naturalist," Professor Kendall kindly contributed some geological notes on the Robin Hood's Bay district, in which he set forth the problems to be investigated on the occasion of the excursion, which was held from May 18th to 20th. From the report of this, which appeared in "The Naturalist" for June and July, it would seem that an exceptionally profitable time was spent. The geologists were particularly to the fore, but advantage was taken of this coast excursion for investigating the marine zoology, and under this head the Rev. F. H. Woods presented a useful list of the specimens noticed. The President, Mr. C. Crossland, presided at crowded meetings on two evenings, when Professor Kendall gave an address on "Some Geological Problems of the District," paying special attention to the persistent faultings; Mr. F. Elgee read a paper on "Glacial Survivors," which has since been printed in "The Naturalist"; the Hon. Secretary, Mr. Sheppard, described a recent British Chariot-Burial which he had excavated in the district; and Mr. J. J. Burton and Mr. Riley Fortune read interesting contributions on the Natural History, etc., of Fylingdales, which had been kindly prepared by Mr. J. W. Barry, some of which have since been printed in "The Naturalist." Fourteen new members were elected, and two societies were affiliated with the Union.

**South Cave.**—After a lapse of thirteen years, the Union visited South Cave and spent a pleasant day in investigating the geological sections exposed in the cuttings of the Hull and Barnsley Railway Company, and the dales adjoining. The members of the Hull Scientific and Field Naturalists' Club and the Hull Geological Society acted as leaders. Reports of the various sections were printed in the August "Naturalist." Two new members were elected.

On Thursday, July 11th, **Thorne Waste** was visited, and the members had an opportunity of examining one of the few pieces of wild moorland in that part of the county. A full report of the work accomplished is given in the September "Naturalist." Two new members were elected.

A pleasant week-end was spent at **Arncliffe**, where the members monopolised almost every available bed in the village. The various sections worked hard for three or four days, and a lengthy account of the work accomplished is given in the October "Naturalist," which was enlarged for the purpose. At an evening meeting held under the presidency of Mr. Crossland, papers were read by the Rev. W. A. Shuffrey on "The Botanical Features of Littondale," (which has since been printed in "The Naturalist"); and on "Yorkshire Hemiptera, etc.," by Mr. W.

Denison Roebuck. The Vicar of Arncliffe also allowed the members to examine his interesting botanical garden. One new member was elected.

In the adjoining Ribblesdale at **Horton** a successful excursion was held on September 7th, and some of the members stayed over the week-end. One of these, Mr. T. Gibbs, has since contributed an article on the fungi of the district to "The Naturalist" for November. This excursion was largely geological, and there were present many of the leading Yorkshire geologists.

**Grassington.**—The Annual Fungus Foray was held at Grassington from September 21st to 26th.

As will be seen from the November "Naturalist," this Fungus Foray was exceptionally successful. The number of workers was even larger than usual, and notwithstanding the previous unfavourable weather, from a mycological point of view, much good work was accomplished. In the evenings papers were read and discussed, and one practical result of the excursion is the definite apportioning of the work of studying the fungus flora of the county to different members, each of whom will be responsible for certain groups.

Speaking generally, the excursions have given opportunity for conscientious and systematic work, and that this has been successfully accomplished is proved by the following list of reports and papers which have appeared in our journal, "The Naturalist," as a direct result of these rambles. In addition to the list given there are several smaller notes, and there will be contributions made to our next volume of Transactions, whilst papers on some of the work accomplished will be printed in our journal for next year:—

- Yorkshire Naturalists at York, in "The Naturalist" for January.
- The Yorkshire Naturalists' Union in 1907, in "The Naturalist" for February.
- Fungus Foray at Farnley Tyas, by C. Crossland, in "The Naturalist" for February.
- Recently discovered Fungi in Yorkshire, by C. Crossland, in "The Naturalist" for March.
- Geological Notes on the Robin Hood's Bay District, by Prof. P. F. Kendall, in "The Naturalist" for May.
- Yorkshire Naturalists at Robin Hood's Bay, in "The Naturalist" for June, July, and August.
- Glacial Survivals, by F. Elgee, in "The Naturalist" for August and September.
- Notes on the Carboniferous Rocks of the Kettlewell District, by Cosmo Johns, in "The Naturalist" for August.
- Yorkshire Naturalists at South Cave, in "The Naturalist" for August.
- Notes on Changes among Animals in Fylingdales, north-east Yorkshire, within the last Fifty Years, by J. W. Barry, in "The Naturalist" for September and October.
- Note on the Distribution of *Diatoma hiemale* in East Yorkshire, by R. H. Phillip, in "The Naturalist" for September.
- Natural History of Thorne Waste, in "The Naturalist" for October.
- Natural History of Littondale, in "The Naturalist" for October.



- The Botanical Features of Littondale. by Rev. W. A. Shuffrey, in "The Naturalist" for October.  
 Fungi at Horton-in-Ribblesdale, by Thos. Gibbs, in "The Naturalist" for November.  
 Fungus Foray at Grassington, by C. Crossland, in "The Naturalist" for November.  
 The Sylvan Vegetation of Fylingdales, N.E. Yorks., by J. W. Barry, in "The Naturalist" for December.

**Excursion Programmes** have been printed and distributed prior to the Field Meetings, as in past years.

**Permission to visit Estates** has also kindly been given by the various landowners of the county, for which the best thanks of the Union are due.

**Railway Facilities.**—The various Railway Companies have kindly granted the usual travelling facilities.

**Excursions for 1908.**—The following places and dates are arranged for excursions for 1908 :—

- For York, N.W.—Topcliffe (May 16th).  
 ,, S.E.—Hornsea (Whit Week-end, June 6th to 8th).  
 ,, S.W.—Hampole (Thursday, July 16th).  
 ,, N.E.—Osmotherley (Bank Holiday Week-end, Aug. 1st to 3rd).  
 ,, Mid.W.—Clapham (Week-end, Sept. 5th to 7th).  
 Fungus Foray.—Mulgrave Woods (Sept. 19th to 24th).

**The Annual Meeting for 1908** will be held at Doncaster, by the invitation of the Doncaster Scientific Society.

**Objects of the Union.**—The Secretary will supply circulars setting forth the objects and aims of the Union on application.

**Winter Lecture Scheme.**—A revised list of Lectures was printed, as set forth in the Annual Report for 1906. In this the names of several prominent Yorkshire Naturalists appear, and every advantage of this scheme has been taken by the affiliated societies. In fact, some of them have gone so far as to give donations to the funds of the Union in return for this privilege.

The affiliated Societies still show a satisfactory increase in number. During the year three new societies have joined, and in addition, the York and District Field Naturalists' Society and the Leeds Geological Association have become fully affiliated by contributing half-a-guinea per annum in addition to the levy of one penny per head. The Ackworth School Natural History Society and the Ripon Naturalists' Society are not in a position to remain connected with the Union. The total number of societies now affiliated is forty-three, having a total membership of 3516.

The Statistics kindly furnished by the Secretaries of the affiliated societies show that the average membership of each society is now 88, or a total of 3516, as already stated. Added to this, the membership of the Union gives the total numerical strength as 3995.

The Membership of the Union now stands at 479.

The following new members \* have been elected during the year :—

- Barry, J. W., J.P., Fyling Hall, Robin Hood's Bay.  
 Berry, R., C.M.E. Office, Lancashire and Yorkshire Railway, Horwich, near Bolton.  
 Blackman, V. H., M.A., F.L.S., University, Leeds.  
 Bolton, J. H., 3, Leamington Avenue, Halifax.  
 Bowman, Rev. J. W., M.A., B.D., The Manse, Hudson Street, Whitby.  
 Brady, G. S., M.D., F.R.S., LL.D., D.Sc., Park Hurst, Endcliffe, Sheffield.  
 Burt, A. H., D.Sc., 4, South View, Holgate, York.  
 Cowling, H., 10, Bradley Road, Silsden, near Keighley.  
 Dalton, A. C. Lindum House, High Street, Scunthorpe.  
 Dawson, J. T., Ashgaith, Skipton.  
 Dixon, Dr. A. C., 12, Kendrew Street, Darlington.  
 Dodson, H., Huntcliff House, Saltburn.  
 Drake, H. C., 6, Lee Street, Holderness Road, Hull.  
 Fielding, W., 24, Ventnor Terrace, Halifax.  
 Foster, H., 6, Highthorne Street, Armley, Leeds.  
 Fowler, T. Marchant, Crookleigh, Derby Street, Barnsley.  
 Garstang, Prof. W., M.A., D.Sc., F.Z.S., University, Leeds.  
 Grant, C. H., M.Sc., F.R.Met.S., 212, Burley Road, Leeds.  
 Greaves, A. E., 52, Cecil Street, Goole.  
 Haxby, Fred, 11, Necropolis Road, Bradford.  
 Holmes, J., 9, Campbell Street, Crosshills, near Keighley.  
 Ibbotson, W., 144, Burngreave Road, Sheffield.  
 Jackson, W., 6, Edgar Terrace, Hook, near Goole.  
 John Crerar Library, c/o Messrs. H. Grevel & Co., 33, King Street, Covent Garden, London, W.C.  
 Malone, Michael, 3, Ingleby Street, Brownroyd, Bradford.  
 Martin, A. H., Ravenswood, Low Fell, Gateshead.  
 Maw, M. H., Walk House, Barrow-on-Humber.  
 Midgley, H., 13, Park Road, Windhill, Shipley.  
 Midgley, T., Chadwick Museum, Bolton.  
 Mitchell, F., 9, Upper Fountaine Street, Leeds.  
 Murdoch, G. W., Woodbine House, Bentham, R.S.O.  
 Ralfe, P. G., Castletown, I.O.Man.  
 Reed, Rev. F., B.A., Whitwood Rectory, Normanton.

\* This list includes those elected at the Annual Meeting.

Roberts, S., Jnr., M.A., The Beeches, Park Grange, Sheffield.  
 Robinson, J. G., B.A., J.P., Cragdale, Settle.  
 Saunders, T. W., Bouilly Mines, Easington, R.S.O.  
 Upcott, H., F.R.C.S., 15, Albion Street, Hull.  
 Wade, E. W., M.B.O.U., Vittoria Hotel, Hull.  
 Wager, M. E., B.Sc., Bragg Road, Mytholmroyd.  
 Wakefield, E. H., Waterloo Road, Barnsley.

We regret to record the death of the following members :—

Wilson Hemingway, Bank Top, Dewsbury.  
 Ben Hirst, Tamewater, Dobcross, Oldham.  
 Rt. Hon. Earl of Liverpool, Kirkham Abbey, York.  
 J. F. Walker, M.A., 45, Bootham, York.  
 Sir Michael Foster, K.C.B., Nine Wells, Great Shelford,  
 Cambridge.  
 John William Farrah, Jeffries Coate, Harrogate.  
 John Farrah, F.L.S., Jeffries Coate, Harrogate.

**Divisional Secretaries.**—More than ever has the Union been assisted in its work by the divisional secretaries, who have relieved the general secretary by making local arrangements for excursions, and in other ways.

The following are appointed for 1908 :—

York, S.W.—H. H. Corbett, 9, Priory Place, Doncaster.  
 A. Whitaker, Savile House, Worsborough  
 Bridge, Barnsley.  
 York, Mid W.—Riley Fortune, Lindisfarne, Dragon Road,  
 Harrogate.  
 York, N.W.—W. Robinson, Greenbank, Sedbergh.  
 York, N.E.—J. J. Burton, Nunthorpe, R.S.O., Yorkshire.  
 York, S.E.—J. W. Stather, Newland Park, Hull.

**Local Treasurers.**—As in past years, the local treasurers have kindly given assistance in the matter of collecting subscriptions. The following are elected for 1908 :—

Bradford—H. E. Wroot, 45, Pollard Lane, Bradford.  
 Halifax—C. Crossland, 4, Coleridge Street, Halifax.  
 Huddersfield—W. E. L. Wattam, 54, Towngate, Newsome,  
 Huddersfield.  
 Leeds—H. Ostheide, 91, Harehills Avenue, Leeds.  
 Malton—M. B. Slater, Newbiggin, Malton.  
 Middlesbrough—T. F. Ward, Park Road South, Middles-  
 brough.  
 Redcar—T. H. Nelson, The Cliffe, Redcar.  
 Scarborough—J. H. Rowntree, Folkton Manor, Ganton, York.  
 Sheffield—A. T. Watson, 11, Leopold Street, Sheffield.  
 Skipton—J. J. Wilkinson, Burnside, Skipton.  
 Whitby—Thomas Newbitt, 17, Royal Crescent, Whitby.

**General Committee.**—At the York meeting, the following were added to the permanent general committee of the Union :—

**H. Culpin**, 36, Nether Hall Road, Doncaster.

**G. Grace**, 38, Windsor Road, Doncaster.

**A. Whitaker**, Savile House, Worsborough Bridge, Barnsley.

**Miss M. A. Johnstone**, 58, Waverley Road, Horton Grange, Bradford.

The following are elected for 1908 :—

**W. P. Winter**, Moorhead, Shipley.

**R. Fowler Jones**, 8, Lendal, York.

**W. E. L. Wattam**, 54, Towngate, Newsome, Huddersfield.

**C. A. Cheetham**, Glenmoor, Armley, Leeds.

**W. H. Parkin**, Studholme, Shipley.

**W. Wilson**, Holywell Cottage, Skipton.

**Transactions.**—In accordance with the wish of the Executive Committee it was decided not to proceed with the publication of the Transactions, which will consist of a volume of miscellaneous information, until it was seen how the finances of the Union were progressing. Towards this volume, which is now in preparation, are an appendix to the Flora of Dewsbury, by Mr. P. Fox Lee; a list of Fungi taken at Maltby, by Mr. Crossland; a list of Fungi taken at Grassington, by Mr. Crossland; a list of Economic Fungi, by Mr. J. H. Holland; a list of Yorkshire Hemiptera, by Mr. W. Denison Roebuck; a list of Yorkshire Arachnida, by Mr. W. Falconer; the Geological Bibliographies for 1902 to 1907; the excursion programmes for 1905-6-7 (already printed); the reports for 1905-6 (printed off); and this report, and lists of members.

**“The Birds of Yorkshire.”**—This volume has been published, and we should like to take this opportunity of thanking Messrs. A. Brown & Sons for the excellent way in which they produced it. It is very gratifying to find that the work of the ornithological members of this Union has been so excellently prepared for the public. The two handsome illustrated volumes have received every praise from the scientific press, and it is acknowledged that they constitute the finest county avifauna ever printed. The original subscribers to the work are to be congratulated on obtaining it at the low price of one guinea.

The Executive also wishes to record its appreciation of the services of Mr. T. H. Nelson, M.B.O.U., to whose labours the publication of the book was so largely due.

We trust that our members will see that the work is placed in every public library in the county.



## SECTIONS.

The President and Secretary of the Union are *ex-officio* Members of all the Sections and Committees.

**Vertebrate Section.**—The Officers have to report that increased interest has been taken in the work of this section during the past year, and have to thank members for their better attendance at the Union's excursions, and for their increased contributions to the pages of the "Naturalist" in response to our request a year ago.

The chief event of the year has been the publication of the "Birds of Yorkshire," by Mr. T. H. Nelson. This great work will be the recognised standard for ornithology in Yorkshire for a long time to come, and it has already taken its place amongst the very best county avifaunas. Although we recognise some imperfections (which might almost have been avoided if a committee, fully representative of the Yorkshire ornithologists, had been formed to have read the proofs before publication); yet the members of this section beg to congratulate the Yorkshire Naturalists' Union on the addition of two such handsome and valuable volumes to its transactions; and offer their best thanks and congratulations to Mr. Nelson for the almost endless trouble and labour which the production of the "Birds of Yorkshire" must have entailed.

In the West Riding there are no new additions to make for the past year, and nothing to report of exceptional rarity. But the members of this section are now more carefully working out the true distribution of the vertebrate fauna of the county than probably has been done at any time previously.

The past winter was a long, dragging, and rather severe one, but not of sufficient severity to cause any great mortality amongst the birds. The sudden and severe spell of nearly Arctic winter at Christmas caused almost a "stampede" of the passerine birds from the inland districts, which was followed by a great influx of ducks (Mallards, Pochards, Goldeneyes, etc.), but nothing of exceptional rarity was noted. The winter was succeeded by a spring and summer which for wet, cold, and absence of sun would be hard to beat. The nesting operations of many species were most seriously interfered with, and there was great destruction of eggs and young birds—more especially with those species that nest upon the ground. Most of the summer migratory birds were later in arriving, and in settling down, than in normal years. Several species returned in lesser numbers (including the Black-cap), and the Landrail still continues to decrease. Starlings continued nesting until quite late in the season, many young birds being in their nests until the middle of July. In the month of

October nests with young of Hedge Sparrow, Robin, and Swallow were noted. Spotted Flycatchers were especially late in arriving, but were very abundant when they did come.

The latter days of October and the early days of November witnessed an enormous migration of Redwings in the West Riding. Every night they could be heard passing over in considerable numbers. The migration evidently covered a large extent of country.

The almost total absence of wild fruits promises a bad time for the birds should the winter be at all severe. Elder trees are in blossom in November, the blossoms dying away without the tree fruiting. This in itself is an excellent example of the results of this abnormal season.

For the North Riding, Mr. Nelson reports :—The past year has been devoid of special interest. During the severe weather immediately following Christmas, great numbers of wild fowl appeared on the coast—various kinds of duck, including Pochards, Tufted Ducks, and Golden Eyes, also several Grebes.

Immense flocks of Golden Plover were on the Tees sands between Christmas and the New Year, moving southward after two or three days; there was great mortality amongst small birds—Bramblings and the Thrush family suffering heavily. On the spring migration two Ruffs and a small trip of Dotterel were observed.

Ring Plovers and Sheld-Ducks nested as usual at the Tees-mouth.

In August and September, Richardson's Skuas and Gannets were unusually abundant, as many as forty to fifty of the latter species being noticed fishing together in the Tees bay.

On the autumn migration a great rush took place on the 22nd of October, the flocks consisting of Fieldfares, Redwings, Starlings, Finches, Pewits, and Hooded Crows, with many Short-eared Owls, a few Woodcock, and a Great Grey Shrike.

Taking the North Riding generally, nothing of special importance has been noted, with the exception of the breeding of the Red-backed Shrike at Cawthorne, near Pickering.

In MAMMALIA nothing has been recorded worthy of special mention. Mr. Whitaker continues his investigations upon the Bats, and the results which have been recorded in the "Naturalist" have proved of great interest.

REPTILES AND AMPHIBIANS furnish no records.

FISHES.—This is a branch of study which requires more observers. Mr. T. Stephenson's interesting notes in the "Naturalist" upon Marine Fishes are practically the only records we have (with the exception of a large Trout near Harrogate). It would be a great advantage if we could arrange to have an observer in each coast town and village.

Writing for East Yorkshire, Mr. E. W. Wade adds :—The season of 1907 is one that will long be memorable amongst ornithologists for its consistently unfavourable weather.

The effects of the severe winter upon bird life were disastrous. Redwings died by thousands all over the country, being driven by hunger to eat not only the Holly berries and Hips, but Mistletoe berries, which, as a rule, no bird but the Mistle Thrush will touch. The Heron, usually the earliest of nesting birds, which sometimes sits on its eggs through snow and frost, had, in one colony at least, not commenced to lay on 24th March.

In spite of the inclement season, we have to record unusual appearances of some birds, which we should hardly have expected to see so far north this year, viz., a Nightingale sang regularly at Sutton, another at Waghen, and a third at Elloughton this spring, and must have been breeding birds. On 20th May Mr. B. Haworth Booth reported a male Red-breasted Flycatcher at Hull Bank House; and on 4th June Mr. H. R. Jackson reported that he saw male and female of the same birds at Thearne, about a mile distant.

We have one or two interesting observations to record from this district, viz :—

The noticeable scarcity of the Grey Crow in autumn and winter, as compared with previous seasons.

The gradual disappearance of the Corncrake from the East Riding is coincident with the same fact observed in the West Riding.

On 9th May a Starling's nest with eight eggs, all of one type, was found in Burton Constable woods in a decayed tree-stump far from any other breeding place of the species. This is the third year in succession that the same number has been laid.

In early May a large flock of Dotterel was seen on the low lands between Easington and the Humber, and several were shot.

At Hornsea Mere, the keeper, J. Taylor, reports that the Herons have decreased, but the Pochards show a slight increase over recent years. Only one pair of Shovellers bred here, against seven pairs in 1906, probably owing to the greater amount of water having flooded out the nesting locality. A pair of Tufted Ducks has again been on the Mere all this season. Only three pairs of Great-crested Grebe remain, and of these only one pair reared young, two in number. The increase of boating is undoubtedly responsible for driving away these birds.

At Bempton, the year 1907 has been the most disastrously wet season at the cliffs within living memory; an unfortunate factor for climbers, but fortunate for the birds. In consequence of the interruption in gathering eggs at the right time, many became

stale before taken, and the third laying was thus postponed until the climbing season had terminated, as the interval for relaying, after sitting some days, was naturally greater than if the eggs had been taken when quite fresh. Most of the eggs of this third laying were hatched off in consequence.

The following Officers were elected for 1908:—

President—Riley Fortune, Harrogate.

Secretaries—T. H. Nelson, Redcar; E. W. Wade, Hull; H. B. Booth, Shipley; W. H. Parkin, Shipley.

Representative on Executive—R. Fortune.

Representative on Committee of Suggestions—A. White.

**Entomological Section.**—Mr. A. Whitaker writes:—I have before me nearly thirty letters from friends residing in different parts of the county to whom I would here like to express my indebtedness for many interesting and valuable notes on the past year's work.

The season is almost unanimously voted to have been one of the worst on record for Lepidopterists. The cold and wet weather which prevailed during spring and summer have been unpropitious to almost all species, in the case of butterflies especially, even the most common kinds have been conspicuous by their absence.

“Sallows” were a failure. Of all my correspondents, two or three only appear to have had any success by this method of collecting, and even they had but a short harvest—one or two good nights only.

“Sugaring” has proved even worse, and has been designated “A miserable failure,” “Altogether useless,” “Absolutely unproductive,” and “Never worse,” etc. Those collectors who had patience to endure to the end, found the sugaring in late autumn slightly better, the more common species then coming sparingly.

The phenomenal swarms of Aphides during September, and consequent prevalance of “Honey-dew,” probably provided the moths with a plentiful food supply, and made them not only independent of “sugar,” but also of such attractions as heather, ivy, and flowers generally, all of which were unattractive throughout the autumn.

One result of the exceptional weather has been that the times of emergence have been very materially affected, and in the case of many species *most* unusual. Probably many moths have lain over in the pupal stage, and the warm dry weather in September caused a fair percentage of these to emerge, for more than half of my correspondents record instances of summer moths occurring in late autumn. The majority of species did not make their appearance until some weeks after their usual time.



Most larvæ were scarce in spring and early summer, but autumnal kinds were unusually plentiful, and those of such common species as *A. lubricipeda*, *A. menthrastri*, *M. brassicæ*, *H. oleracea*, and *P. gamma* have defoliated the gardens in many places towards the end of September, while the caterpillars of less common kinds have been proportionately plentiful. Mr. R. Moor, of York, for instance, informs me that on the 29th of September he took on Strensall Common 68 larvæ of *N. camelina*, 21 of *B. rubi*, 11 of *N. dictæoides*, 2 of *A. leporina*, and 70 of *N. dromedarius*.

I have received many interesting notes on variation, and especially variation in the direction of melanism and melanochroism. Dark forms of *X. polyodon*, *P. pilosaria*, *O. bidentata*, *A. rumicis*, *B. repandata*, *A. nebulosa*, *V. cambricaria*, *C. viminalis*, and *L. caesiata*, etc., are referred to as becoming more numerous, and in some cases darker. Mr. B. Morley records *caesiata* quite black from Skelmanthorpe, and Mr. L. S. Brady refers to *repandata* larvæ from Sheffield district producing 75 per cent. of black imagines. Mr. Morley reared a number of larvæ of *A. agathina*, and found the resulting moths all instances of extreme melanism. He also makes mention of indications of melanism in odd specimens of *C. elinguarina* and *A. aprilina*, and of melanochroism in *B. perla*. Mr. T. A. Lofthouse bred two perfectly black specimens of *A. ligustri* from Middlesbro' district, and Mr. L. S. Brady records two specimens of *E. fasciaria* of a "dull greenish" colour taken near Sheffield.

Mr. G. Parkin of Wakefield sends me an interesting note about the breeding of some exceptionally light-coloured sports of *O. bidentata* from black parents.

*A. ulmata* has occurred in unusual numbers at Skelmanthorpe, and some interesting varieties have been taken.

About 200 pupæ of *A. grossulariata* from Barnsley district, taken in a garden from which some thousands of specimens have been reared during the past few years without showing any indication whatever of variation, this season produced 10 var. *varleyata*, 1 smoky form, and other exceptionally light and dark insects.

Not many rarities have occurred. Mr. L. S. Brady is to be congratulated on the capture of three specimens of *E. coronata* near Sheffield, and Mr. Jas. Lee has taken *S. convolvuli* in Bradford.

Mr. T. A. Lofthouse writes:—Only two correspondents refer to Tortrices or Micros in their replies. Mr. L. S. Brady notes having taken *Tortrix semialbana* and *Sciaphila sinuana* at Edlington (the former already recorded in the "Naturalist"), and also bred *Euchromia mygindana*, *Coccyx ustomaculana*, and *Coleophora*

*vitisella* from the Sheffield district. In the Middlesbrough district a good many specimens were noted on one or two occasions in June, among the best being *Stigmonota dorsana* and *S. internana*, *Adela rufimitrella*, and *Coleophora fabriciella*, and during the season a good many other species which are not as yet identified were taken.

NEUROPTERA AND TRICHOPTERA—Mr. G. T. Porritt writes :—Very little work has been done among the Neuroptera and Trichoptera during the year. The only things worthy of record are the finding of *Hemerobius marginatus* commonly at Arncliffe, on the occasion of the Union's Excursion there, on August 3rd, by myself; and the still more local *Hemerobius orotypus* in abundance in the Grass Wood, Grassington, on September 7th, also by myself. *Chrysopa tenella* was common at Huddersfield; and Mr. W. Denison Roebuck found the curious *Chatopteryx villosa* at Ilkley.

The following were elected for 1908 :—

President—W. Denison Roebuck, Leeds.

Secretaries—(For Coleoptera) E. G. Bayford, Barnsley; (Lepidoptera) A. Whitaker, Barnsley, and B. Morley, Skelmanthorpe; (Hymenoptera, Hemiptera, and Diptera) W. D. Roebuck, Leeds; (Neuroptera, Orthoptera, and Trichoptera) G. T. Porritt, Huddersfield.

Representative on Executive—William Hewett, York.

Representatives on Committee of Suggestions—J. W. Carter and W. Hewett.

The Conchological Section was officially represented, and the officers report that good work was done at all the Excursions except the one at Horton-in-Ribblesdale. At the opening meeting at Robin Hood's Bay no terrestrial forms were looked for, the whole attention of the members of the section present being devoted to the search for marine mollusca between tide-marks, about 34 species being observed.

In respect of land and freshwater mollusca, about a dozen species were noted at South Cave, space and time being restricted to a very limited area of park and wood and a couple of hours; at Thorne Waste, or rather in its vicinity, 30 species occurred, only one of them—*Hyalinia alliaria*—being found on the Peat Waste itself; and in Littondale about 30 species were collected or noted.

The results of the Littondale Excursion were particularly interesting, the district not having been visited by conchologists for more than thirty years, and the results achieved, and the comprehensive and complete manner in which the dale and its mountain-barriers were investigated, demonstrate the wisdom of

the policy of confining each Union Excursion to a strictly limited and well-defined area as far as possible, as well as selecting districts which have received but little attention.

An important event of the year has been the publication of the first volume of the "Victoria History of Yorkshire," the volume devoted to the physical features and natural history of the county. Two of the papers are within the scope of this section of the Union. The chapter on Marine Zoology, by Mr. John Oliver Borley, is excellently well done, and includes well-drawn up lists of Protozoa, Porifera, Cœlentera, Vermes, Polyzoa, Marine Mollusca, Echinoderma, and Tunicata, preceded by half-a-dozen pages of introductory matter of great interest.

We are not so fortunate as regards the Land and Fresh-water Mollusca, the account of which does not adequately represent our knowledge of the group, and it is a matter of regret that this account has not been entrusted to some conchologist familiar with the molluscan fauna of our well-worked county.

The Officers have been elected for 1908 as follows :—

President—W. H. Hutton, Leeds.

Secretaries—J. E. Crowther, Elland ; W. Denison Roebuck, Leeds.

Representative on Executive—J. E. Crowther, Elland.

Representative on Committee of Suggestions—John W. Taylor, Leeds.

**Botanical Section** (*Phanerogams*).—Mr. J. F. Robinson writes :—Again it may be recorded that, so far the phanerogamic and higher-cryptogamic work is concerned, there has been no diminution of effort and interest during the past year. Every excursion planned and carried out by the officers of the Union has had its contingent of botanists, who evidently have lost no opportunity of observation of the flora of the various widely-separated districts visited ; and, if not many new discoveries are to note, yet many interesting, old records have been confirmed, some new stations added ; and, generally, the views of plant life—distribution, chemistry, etc.—broadened (*vide* Excursion Reports in "The Naturalist"). Confirmation of the above statement may be had in the appearance of several articles, other than the reports, which have also appeared in "The Naturalist" ; and we are warranted in saying that "the ancient spirit is not dead," nor indeed are there any signs of it dying.

Notwithstanding the lateness of the season and the early date of the Whitsuntide excursion to Robin Hood's Bay, no fewer than 130 species of flowering species were noted in the sheltered dales

cut by the beck of this picturesque part of North-east Yorkshire. It is with pleasure that we observe the extension of the distribution of *Trientalis* to the neighbourhood of Flying-dales. A short, but will-filled day was spent near South Cave, on the western escarpment of the Chalk Wolds, in late June, when some old favourites and almost peculiarly East-Yorkshire plants were again seen,—e.g., *Atropa belladonna* and *Rosa arvensis* (perhaps the commonest rose in the riding). Thorne Waste in July proved in many ways, as it always does, most interesting, and not least in showing that that fast vanishing umbellifer *Peucedanum palustre* is still an inhabitant of the county. But there were other good things (*vide* "The Natural History of Thorne Waste" in "The Naturalist," September, 1907, page 320). The excursion, which embraced Kettlewell, Arncliffe, and Littondale (August Bank Holiday), perhaps reached the acme of botanical success in this year of grace. Old enthusiasts, ever young because of their continuous touch with Nature, gave a good account of themselves and the flora of this not over-much visited locality. To be at once in the region of *Saxifraga aizoides*, *Polemonium caeruleum*, *Actæa spicata*, *Dryas octopetala*, and other Yorkshire rarities, and to observe exactly so many of their plant associates, was no mean privilege. A slight error should, perhaps, be corrected here. The plant called *Cochlearia danica*, in the list ("The Naturalist," October, 1907, page 349) should be simply *Cochlearia officinalis*, var. *alpina*.

Apart from the excursions, individual members and associates of the Y.N.U. have interested and delighted the botanical fraternity by published reports of their personal efforts and discoveries. Thus *Sagina Reuteri*, Boiss., is claimed by our lynx-eyed, bryological friend, Mr. Wm. Ingham, who discovered the plant, to be a *native* addition to the British Flora. This interesting find was made in that noted field of good things botanical—Skipwith Common, still a station in Yorkshire for such unusual plants as *Hypericum elodes*, *Mentha Pulegium*, *Limosella aquatica*, *Pilularia globulifera*, etc. The butterfly orchis, *Habenaria chlorantha*, not at all a common East Riding plant, has been discovered in abundance in a not much frequented part at the eastern foot of the Wolds. *Potamogeton alpinus* has been added from a station near Doncaster by one of the Secretaries of this Section; whilst our other bryological friend, Mr. J. J. Marshall and party have ransacked Allerthorpe Common, and confirmed old records thereof.

Finally, lest it be thought that the old, so-called "floristic" devotees take little interest in other departments of the great botanical study, we are pleased to record the pleasure and instruction that have been derived from the articles on "The Flora of the Driftless Area," the Chemistry of Plants, ecological botany, etc., that have emanated from members of our Union, and been published in that increasingly interesting publication, "The Naturalist."



The following were elected for 1908 :—

President—W. G. Smith, Ph.D., Leeds.

Secretaries—H. H. Corbett, Doncaster ; J. F. Robinson, Hull.

Representative on Executive—P. Fox Lee.

Representative on Committee of Suggestions—S. Margerison.

**Geological Section.**—Mr. E. Hawkesworth writes :—The members of this section have been strongly in evidence at the excursions, in some cases forming a good half of those present. Much useful work was done, the fact of a definite object being arranged for each meeting adding much to its value. There was a splendid muster at Robin Hood's Bay, and during the week-end the coast was worked from Hawsker Bottoms to Blea Wyke, special attention being paid to the Peak faults and the problems attaching to the Dogger. The prospects of good fossils in plenty attracted a great number of geologists to South Cave, and as an outcome of this meeting some particular attention is likely to be paid, in the near future, to the puzzling drift deposits of this district. At the Thorne meeting valuable observations of the gravel and peat deposits were made. The object of the Arncliffe fixture was, of course, the zoning, according to corals and brachiopods, of the Lower Carboniferous Rocks so well exposed in that area. The Section was very strongly represented at Horton-in-Ribblesdale, the main object of the meeting being the examination of the fine exposures of pre-Carboniferous Rocks on the west side of Ribblesdale ; but the overlying Carboniferous Limestone was not neglected, and the second day was spent in tracing the zones on the westerly slopes of Penyghent. Detailed accounts of the work done at these meetings have appeared in the "Naturalist."

The following were elected for 1908 :—

President—Cosmo Johns, Sheffield.

Secretaries—A. J. Stather, Hull ; E. Hawkesworth, Leeds.

Representative on Executive—Godfrey Bingley.

Representative on Committee of Suggestions—Prof. Kendall.

## COMMITTEES.

**The Yorkshire Micro-Zoology and Micro-Botany Committee.**—Mr. R. H. Philip writes that on the occasions on which he was present there was nothing unusual to report

The following were elected for 1908 :—

Chairman—M. H. Stiles, Doncaster.

Convener—R. H. Philip, Hull.

Representative on Executive—H. Moore, Rotherham.

Representative on Committee of Suggestions—W. West, Bradford.

Other Members—J. N. Coombe, Sheffield; Prof. A. Denny, Sheffield; F. W. Mills, Huddersfield; and Dr. H. C. Sorby, Sheffield.

**The Yorkshire Coleoptera Committee.**—The wet weather during the past summer has been anything but advantageous to Yorkshire Coleopterists. Nevertheless, as the result of the efforts of the members, several important records have been made, including about a dozen additions to the County List. Full particulars of these are appearing in the "Naturalist."

The constitution of the Committee for 1908 is as follows:—

Chairman—Mr. L. Thompson, 20, Emerald Street, Saltburn-by-the-Sea.

Convener—H. H. Corbett, 9, Priory Place, Doncaster.

Representative—H. Osteide, 91, Harehills Avenue, Leeds.

Other Members—E. G. Bayford, Barnsley; J. W. Carter, Bradford; W. Foggitt, Thirsk; J. Gardner, Hartlepool; Rev. W. C. Hey, West Ayton; W. Denison Roebuck, Leeds; E. W. Morse, Leeds; and T. Stainforth, Hull.

**Glacial Committee.**—Mr. J. W. Stather writes:—Up to the present, the only records that have come to hand are from members of the Hull Geological Society as follows:—

Mr. G. W. B. Macturk reports the finding of two Upper Lias Ammonites in superficial deposits near South Cave.

(1) *A. communis*, east of village, 125 feet O.D.

(2) *A. fibulatus*, in a bed of rounded gravel at Kettlethorpe, 200 feet O.D.

In connection with the above notes, it should be remembered that the present outcrop of Middle Lias is one mile to the west of the localities mentioned above, and at a much lower level, and there is no outcrop of Upper Lias known in the neighbourhood.

Mr. C. Thompson and Mr. H. A. Denham report the following items from Aldborough, on the Holderness coast:—

(1) "A large block of what we take to be Old Red conglomerate, 4 ft. 9 in.  $\times$  4 ft. 2 in.  $\times$  2 ft. 7 in. It contains many large pebbles of quartzite and other hard materials, with many rolled fragments of volcanic ash and porphyrites akin to the well-known Cheviot types."

(2) A big block of Carboniferous Limestone, 6 ft. 5 in.  $\times$  3 ft. 6 in.  $\times$  2 ft. 4 in. It lies on the shore close to the cliff.

(3) A large transported mass of Speeton Clay, 12 ft.  $\times$  7 ft.  $\times$  1 ft. 6 in., embedded in the boulder clay which occupies the beach. Many typical fossils were obtained from it, including

*Exogyra sinuata* and a large number of Ammonites in good preservation, *B. subquadratus*, small lamellibranchs, etc. The bedding of the Speeton Clay was distinctly seen, and the fossils, though of a fragile nature, were uncrushed. The full extent of the mass could not be seen, as it dipped downward towards the cliff.

NOTE.—The only place where this clay occurs *in situ* is at Speeton, thirty miles to the north of this locality.

The following were elected for 1908 :—

Chairman—Prof. P. F. Kendall.

Conveners—J. H. Howarth, Halifax, and J. W. Stather, Hull.

Representative on Executive—E. Hawkesworth.

Representative on Committee of Suggestions—Prof. Kendall.

Other Members—Rev. W. L. Carter; Rev. E. M. Cole; H. H. Corbett; W. Gregson; E. Hawkesworth; W. Simpson; J. W. Stather; F. F. Walton; H. Brantwood Muff; J. E. Wilson; L. Glauert; H. Culpin; Dr. Dwerryhouse; G. Bingley; A. J. Stather; E. E. Gregory; and J. J. Burton.

**Yorkshire Bryological Committee.**—No meetings have been held during the past year, but the notices of mosses and hepatics seen at the excursions, and also new localities for many species show that some work is being done. The publication of the Moss Club's new Census Catalogue (the editing of which devolved on Mr. W. Ingham) has been the most interesting bryological feature of the year, and should stimulate work in recording localities omitted in this list.

The following were elected for 1908 :—

Chairman—W. Ingham, York.

Convener—J. J. Marshall, Beverley.

Representative on Executive Committee—C. A. Cheetham, Armley.

Representative on Committee of Suggestions—W. Ingham.

Other Members—R. Barnes, Harrogate; Dr. R. Braithwaite, London; L. J. Cocks, London; W. West, Bradford; J. W. H. Johnson, Dewsbury; and M. B. Slater, Malton.

**Mycological Committee.**—Mr. C. Crossland writes:—The Mycological Committee has been active during the year 1907.

In the March issue of the "Naturalist" the fungi discovered in Yorkshire, subsequent to the publication of the Yorkshire Fungus Flora, were brought together under one heading. They consisted of 2 species new to science; 7 new to Britain; and 46 and 3 varieties new to Yorkshire, making the total of known Yorkshire fungi up to that date 2681.

Special efforts have been made at each excursion during the year to devote increased attention to this important branch of natural history. At Robin Hood's Bay 74 species were noted: these include 1 new to the county, and 4 to the N.E. division. At South Cave 48 species were met with, 6 of which were new to the S.E. division. At Thorne Waste 51 were collected, including 2 species new to the county, and 1 new to science, the diagnosis of which will be published in "The Naturalist" in due course. At the Arncliffe meeting 107 species were seen and examined; 2 of these were new to the county, and 21 to the Mid.-W. division.

Mr. Gibbs represented the Committee at the Horton-in-Ribblesdale meeting (see "The Naturalist" for November).

It has been a pleasure to find that the members generally, who attend the meetings, take a much greater interest in these things than formerly. At the Robin Hood's Bay meeting Mr. Riley Fortune photographed a fine group of the St. George's mushroom (see "The Naturalist," July, p. 254).

The Annual Fungus Foray held at Grassington, a report of which appeared in the November "Naturalist," was very satisfactory, considering the unfavourable cold weather which prevailed during the summer months, 320 specimens were brought in from the three localities worked:—Grassington, Bolton Woods, and Buckden. Among them were 6 new to the county, and 53 were additions to the fungus flora of the Mid.-W. division.

During the season J. W. H. Johnson has sent several consignments from near Horbury.

The following Officers were elected to form the Mycological Committee for 1908:—

President—G. Masee.

Secretary—C. Crossland.

Committee—Rev. Canon W. Fowler, Harold Wager, F.R.S., Alfred Clarke, W. N. Cheesman, Thos. Gibbs, C. H. Broadhead, J. W. H. Johnson, R. H. Philip, and H. C. Hawley.

**Carboniferous Rocks, Fossil Flora and Fauna Committee.**—Mr. Robert Kidston writes that very little has been done by the Committee during the past twelve months, although some additional records have been given to the Secretary, who hopes before long to send a further and final instalment to the Carboniferous Flora of the county now being published in our Transactions.

The following were elected for 1908:—

Chairman—R. Kidston, F.R.S., Stirling.

Convener—Cosmo Johns, Sheffield.

Representative on Executive—Dr. A. R. Dwerryhouse, Headingley.



Representative on Committee of Suggestions—Cosmo Johns, Sheffield.

Other Members—R. Law, Hipperholme; W. West, Bradford; C. Bradshaw, Sheffield; P. F. Kendall, Leeds; Cosmo Johns, Sheffield; S. Nettleton, Ossett; E. E. Gregory, Bingley; L. Glauert, Sheffield; Wheelton Hind, Stoke-on-Trent; Walcot Gibson, London; E. Hawkesworth, Leeds; Miss Johnstone, B.Sc., Bradford; and H. Culpin, Doncaster.

**Geological Photographs Committee.**—Mr. A. J. Stather writes:—It is to be regretted that the work of the above Committee should still be left in the hands of so few, in these days when nearly every Society has its photographic recorder. For the benefit of those wishing to help, but not understanding the work, let it again be told that the above Committee is desirous of obtaining geological photographic records, from all parts of Yorkshire, of boulders, cliff and quarry sections, and geological phenomena, records of which can only be satisfactorily retained in this form. The increasing interest and value of this can easily be gauged from a glance through the albums of the Society, and a comparison of some of the photographs taken recently with photographs taken in the same district twelve, twenty, and in some cases thirty years ago.

The Society has again to thank Mr. Godfrey Bingley for most of this year's additions amongst which he includes:—

A series of five, showing sections in Boulder Clay, at the Leeds new filter beds, Otley Road, Headingley.

A series of four, illustrating the various forms of Dogger Boulders, found in the vicinity of Robin Hood's Bay.

A series of four, showing the action of waves on the cliffs and boulders in the Robin Hood's Bay district.

A series of five, showing good examples of distinct types of boulders, found in the Robin Hood's Bay district.

A series of three, sections in the cliffs at Hawsker bottom.

And a section in the cliffs at Blea Wyke.

Mr. J. H. Dickinson is also contributing a series in the Robin Hood's Bay district showing the Columnar structure of the Dogger, and Mr. J. W. Stather sends photographs of boulders, and a series showing sections of the Humber mud along the Holderness banks of the river.

The following were elected for 1908:—

Chairman—Prof. P. F. Kendall, Leeds.

Convener—A. J. Stather, Hull.

Representative on Executive—J. H. Howarth.

Representative on Committee of Suggestions—Godfrey Bingley.

Other Members—J. J. Burton; H. H. Corbett; J. H. S. Dickenson; and E. E. Gregory, Bingley

**The Yorkshire Coast Erosion Committee.**—The Secretary, Mr. E. R. Matthews, reports that nothing has occurred during the past twelve months of special interest, and that the work of the Committee is not being overlooked.

The following were elected for 1908 :—

Chairman—F. F. Walton, Hull.

Convener—E. R. Matthews, Bridlington.

Representative on Executive—F. F. Walton.

Representative on Committee of Suggestions—E. R. Matthews.

Other Members—P. W. Loten, Easington; J. T. Sewell, Whitby; J. W. Stather, Hull; W. Y. Veitch, Middlesborough; J. J. Burton, Nunthorpe; and Rev. E. M. Cole, Wetwang.

**Wild Birds' and Eggs' Protection Committee.**—For the first time in the history of the Union, practical steps have been taken to preserve some of the more uncommon birds in the county.

A few members of the Union have subscribed various sums to enable watchers to be employed where necessary, and to give rewards for the preservation of rare species. A good start has been made in this direction; but it is hoped that a much larger subscription list will be obtained for 1908, in order that our efforts may be extended, and a reserve fund instituted for the purpose of being applied to any urgent case.

A watcher was employed during the nesting season at Spurn Point, with the result that the birds have done extremely well, and have been enabled to carry out their nesting operations without molestation. A gratifying increase in Lesser Terns and Ringed Plovers has resulted, and several pairs of Sheld Ducks and Oyster Catchers have brought off young safely.

Several pairs of Arctic Terns frequented the point early in the season, but we regret to say did not stay to nest.

The Peregrines at Bempton have again had our attention, and have brought off their young in safety.

During the year we have had letters complaining about the destruction of Kingfishers, Bitterns, Common Buzzards, Dotterels, etc., in various parts. When, however, definite information, requesting names of culprits and witnesses, has been asked, in every case our informant has drawn back, with the excuse, generally, that they are friends of theirs, and they do not wish to be drawn into any bother.

If members are prepared to give us the information, we will deal with the matter in an effective way, but we cannot do so if the information is withheld.

The expenditure has been £12 10s. 10½d., and receipts £19 17s. 6d., leaving therefore a balance of £7 6s. 7½ in hand towards the 1908 fund.

The following is a list of subscribers to the fund :—

|  | £     | s. | d. |
|--|-------|----|----|
| Left over from 1905 ... ..                                   | 1     | 0  | 0  |
| W. H. St. Quintin ... ..                                     | 5     | 0  | 0  |
| Royal Society for the Protection of Birds...                 | 2     | 2  | 0  |
| Bradford Natural History and Microscopical<br>Society ... .. | 1     | 1  | 0  |
| Hon. Mrs. Carpenter ... ..                                   | 1     | 1  | 0  |
| W. Denison Roebuck ... ..                                    | 1     | 1  | 0  |
| T. Sheppard ... ..   | 1     | 1  | 0  |
| T. H. Nelson ... ..  | 1     | 0  | 0  |
| Oxley Grabham ... ..   | 1     | 0  | 0  |
| C. E. Elmhirst ... ..  | 1     | 0  | 0  |
| H. B. Booth ... ..   | 1     | 0  | 0  |
| R. Fortune ... ..  | 1     | 0  | 0  |
| Digby Legard ... ..  | 0     | 10 | 6  |
| E. W. Wade ... ..  | 0     | 10 | 6  |
| York and Dist. Field Naturalists' Society...                 | 0     | 10 | 6  |
| W. J. Clarke... ..   | 0     | 5  | 0  |
| Leeds Co-operative Field Club ... ..                         | 0     | 5  | 0  |
| Scarboro' Field Naturalists' Society ... ..                  | 0     | 5  | 0  |
| W. Wilson ... ..   | 0     | 5  | 0  |
|  | <hr/> |    |    |
|  | £19   | 17 | 6  |
|  | <hr/> |    |    |

The following were elected for 1908 :—

Chairman—W. H. St. Quintin, Rillington, York.

Conveners—R. Fortune, Harrogate, and T. H. Nelson, Redcar

Representative on Executive—H. B. Booth, Shipley.

Representative on Committee of Suggestions—W. Wilson,  
Skipton-in-Craven.

Other Members—F. Boyes, Beverley ; T. Bunker, Goole ; H. E. Dresser, London ; C. Leatham, Wakefield ; G. T. Porritt, Huddersfield ; Rev. W. T. Travis, Ripley ; W. H. Parkin, Shipley ; A. White, Leeds ; L. Gaunt, Leeds ; S. H. Smith, York ; W. Denison Roebuck, Leeds ; Oxley Grabham, York ; T. Roose, Skipton ; and E. W. Wade, Hull.

**Marine Biology.**—The Rev. F. H. Woods writes :—This branch of natural history has been very much neglected in Yorkshire for some years past ; but there are signs of a revival of interest in the subject. Only one of the Yorkshire Naturalists' Union Excursions of the past year, that to Robin Hood's Bay at Whitsuntide, was to a place on or near the coast. A full list of the marine shells found on that occasion was published in the "Naturalist" for June. They were the result of a hurried visit to the shore, but were sufficient to show that a thorough investigation would

repay the trouble. A small *Pleurotoma*, perhaps a young specimen of *P. rufa*, and a *Philine priunosa*, I had not found on the Yorkshire coast before. On June 15th a visit of the Hull Scientific and Field Naturalists' Club was planned to Filey, but owing to the stormy weather it practically fell through. I was, however, during the intervals between the thunder showers, able to secure considerable additions to those found at Robin Hood's Bay, among them a fine specimen of *Trochus zizyphinus*, which I had not met with before on the Yorkshire coast. I have since examined, under a lens, specimens of shore drift which I have obtained from Filey, Bridlington, and Scarborough. The last proved remarkably rich. Among more than 50 distinct species I found specimens of two species of *Pleurotoma*, one of which I believe to be *brachystoma*, a *Modiolaria costulata*, all new to me as far as this coast is concerned. The whole number of species which I have found on the Yorkshire coast already exceeds 80, and I have seen also one or two more which have been collected by others.

What is very desirable is that a certain number of workers should study the coast systematically, and compare the results. I should be happy to give any help in my power by looking over collections and naming shells. But I am disposed to think that with inexperienced workers the results are better in the end if they work independently, to some extent, *at first*, and get to recognise the species by sight, even if they cannot name them. The first thing for beginners is to realise the difference between the perfect shell with the mollusc in it and the empty shell, and the shell worn or calcined in different degrees; and, again, between the mature and the young shell. These can be best appreciated by constant and persevering study. But those who have time to take the trouble will find the subject very interesting. The two aims we should keep in view are:—(1) A complete list of the marine molluscs on this coast. (2) A collection of good characteristic specimens in the Hull Museum for reference by the conchological student.

The following were elected for 1908:—

Chairman—Dr. H. C. Sorby, F.R.S., Sheffield.

Convener—Rev. F. H. Woods, Bainton.

Representative on Executive—E. Howarth, Sheffield.

Other Members—Rev. W. C. Hey, West Ayton; G. Masee, Kew; T. H. Nelson, Redcar; S. Lister Petty, Ulverston; J. Fraser Robinson, Hull; F. W. Fierke, Hull; W. Denison Roebuck, Leeds; Arnold T. Watson, Sheffield; and J. D. Butterell, Wansford.

**Yorkshire Botanical Survey Committee.**—The Convener reports that the work of this Committee has made satisfactory progress during the year. The excursions which proved most useful were the July one to Thorne Waste and the August Bank Holiday



week-end. The Natural History Survey of Thorne Waste referred to in the report of the Committee for Suggestions was a direct outcome of the excursion there, and this includes Botanical Survey. The very interesting observations of the Rev. E. A. Woodruffe Peacock were the feature of the day, as far as botanical survey is concerned; this has been printed in the "Naturalist" (September, 1907), and is thus available for reference.

The Arncliffe excursion was fully utilised by a party under the guidance of Dr. Woodhead, to make a series of observations which must be regarded as the beginning of a detailed survey of this area. Dr. Woodhead's report on the excursion is as follows:—

"This excursion offered exceptional facilities for the study of plant associations, the village being situated in the heart of the Great Scar Limestone, while towering above it are the alternating beds of the Yoredale Series, Sandstones, Shales, and Limestones, the summits being capped with Millstone Grit. In company with the geologists the various beds were traced out and the changes in plant associations noted. Special attention was paid to the distribution of *Calluna* and *Bracken* on limestone, their distribution being recorded on a 6 inch survey map. Materials were also collected on the distribution of peat, boulder drift and gravel and the related plants, and a considerable time was given to working out the plant distribution in a transect from Hawkeswick Clouder, across the limestone pavement to the bottom of the valley. then over the Old Cote Moor to Kettlewell, and to the summit of Great Wherside. It is hoped to publish the results in due course."

The following were elected for 1908:—

Chairman—T. W. Woodhead, Huddersfield.

Convener and Representative on Executive and Committee of Suggestions—Dr. W. G. Smith, Leeds.

Other Members—J. F. Robinson, Hull; C. Waterfall, Hull; W. B. Crump, Halifax; H. H. Corbett, Doncaster; J. Hartshorn, Leyburn; J. W. H. Johnson, Thornhill; W. E. L. Wattam, Huddersfield; P. F. Lee, Dewsbury; F. Elgee, Middlesborough; H. J. Wilkinson, York; Wilkinson, York; W. Jackson, Goole; and S. Margerison, Leeds.

**Committee of Suggestions for Research.**—The Convener reports that a meeting of this Committee was held in Leeds to consider suggestions sent in by members. The Agenda was sent out to twenty-one Representatives of Sections and Committees, and other members of the Union concerned in the suggestions. Eleven members attended the meeting, and most of the others sent letters of apology for absence. The Chairman of the Committee (Prof. P. F. Kendall) occupied the chair.

The following is taken from the minutes.

The selection of a type of map suitable for Natural History records was considered. This has already been the subject of some papers in "The Naturalist" (Sept. 1905, Nov. 1905, June 1906). It was resolved to report to the Executive: "That for detailed field work, the 6-inch New Survey Maps should be employed; also that the Director-General of the Ordnance Survey be asked if a 'two-inch' map of specific areas could be produced. That in the publication of results obtained in restricted areas, references should be made by means of two-inch squares ruled upon the '6-inch' maps (See Cosmo Johns, "Naturalist," Sept. 1905). That for publication of results relating to large areas, or to sporadic occurrences at widely distant places, the references should be given as latitude and longitude, these being obtainable to within 10 seconds from the 'one-inch' ordnance maps." It may be added that the two-inch square (Mr. Johns') method was regarded as the simpler, but that when large areas covering several sheets of the survey maps were involved, the reference to map number and square number became cumbersome, whereas latitude and longitude were simpler and more easily found.

A suggestion that an account of the Natural History of Thorne Waste be prepared was next considered. It was pointed out that this interesting piece of low-lying peat bog was rapidly being destroyed, but it was still possible to find out much about the present condition of the flora and fauna, while at the same time the influence of changes now going on could be studied. It was then decided to proceed with the formation of a body of workers who could obtain the information necessary for the proposed account. Several names were proposed, mainly of naturalists residing in the neighbourhood of Thorne, Doncaster, etc.; it is yet too early to give these names and other details, because it will take some time to organise the work. The general scheme is that the local naturalists be supplemented by other members of the Y.N.U., so that every branch of Natural History will have its representative collecting and observing on the Waste, and in other ways gathering information. Where aid in identification, or in other ways, is required, the assistance of members with special knowledge will be obtained through the Sections and Committees of the Y.N.U. The completed account might then be published in the Transactions of the Union.

A suggestion was next made that the Excursions might be made more profitable if the work were more fully organised on the lines followed by some Sections and Committees. They applied more to the long (week-end) excursions than to the single day ones. After a short discussion it was resolved to recommend to the Executive: "That a preliminary meeting be held by the various leaders and members at headquarters, either the evening

before or the morning of an excursion, to prepare a programme stating the route and the special objects of each day's excursion; this programme to be posted up at headquarters, so that any member could consult it." It was pointed out that members on arrival could ascertain at once the day's programme, and that it would assist members in selecting the party most suited to their special branch of field-work.

The Convener showed the collection of Seeds available for identification at the University of Leeds. This collection is in use for identifying seeds found as impurities in cultivated seed; also seeds found in the crops of birds, and in other ways. It was proposed to obtain the names of seeds in possession of other collectors, and to combine all together into a single list, which will show what seeds were still required to complete the collections.

Several items on the Agenda could not be fully discussed within the time at the disposal of this meeting. The proposed investigation of Yorkshire peat deposits led to a short discussion of the best methods of securing and packing samples, and in order to settle some difficulties it was agreed to organise a field-trial. The claims of the Fossil Flora of the Secondary Rocks to fuller investigation was somewhat pessimistically received, but it was agreed to call the attention of geologists in North-East and East Yorkshire to the importance of work in this direction. Mr. Margerison's suggestion to obtain records of trees and woods at the higher altitudes in Yorkshire, information much needed by the forester, had to be deferred. Details are required as to place, altitude, geology, character of soil, aspect and exposure to wind, moisture of soil, rainfall, slope, species, density of crop, measurements of trees, health of crop, date of planting, character of vegetation on adjoining area, or as many of these as possible.

The following were elected for 1908:—

Chairman—Prof. P. F. Kendall, Leeds.

Convener—Dr. W. G. Smith, Leeds.

Representative on Executive—P. F. Kendall.

Representatives of Committees and Sections—A. White, Leeds; G. T. Porritt, Huddersfield; W. Hewett, York; J. W. Taylor, Leeds; J. F. Robinson, Hull; W. West, Bradford; W. Ingham, York; J. E. Wilson, Ilkley; Godfrey Bingley, Leeds; F. F. Walton, Hull; and K. McLean, Harrogate.

**Yorkshire Hymenoptera, Hemiptera, and Diptera Committee.**—A number of examples of Hymenoptera and a few Hemiptera and Diptera have been sent in, including a very few which have been collected at the Union Field-Meetings, and are at present in the hands of the Referees.

The Hymenoptera and the Diptera have been listed in the "Victoria History of Yorkshire," in which 578 species of the former group and 368 of the latter group are enumerated, forming the starting-point for future investigation.

Unfortunately the Hemiptera were not included, and to supply this deficiency, Mr. W. Denison Roebuck has collected the records and prepared a list for future publication in the Transactions. Taking the group in the very broad acceptation of the later modern text-books of zoology, the list includes records of 54 Hemiptera-Heteroptera, 27 Cicadina, 7 Psyllina, 6 Aphidina, 9 Coccidina, 12 Anoplura, and 133 Mallophaga, which have been either certainly or presumably found in Yorkshire, making a complete total of 257 species.

The Committee trust to receive the co-operation of all into whose hands specimens of these orders may come, and was appointed as follows :—

Chairman—G. T. Porritt, Huddersfield.

Convener—W. Denison Roebuck, Leeds.

Referees—Percy H. Grimshaw, for Diptera; Edward Saunders, Claude Morley, Rev. F. D. Morice, M.A., for Hymenoptera.

Other Members—Edwin G. Bayford, Barnsley; Rev. W. C. Hey, West Ayton; M. Lawson Thompson, Saltburn; J. W. Carter, Bradford; H. H. Corbett, Doncaster; T. Stainforth, Hull; and H. C. Drake, Hull.

**Soppitt Memorial Library.**—This library has been freely consulted during the year, and thirty-four books have been issued to members. The following have been added to the collection, "Ecology of Woodland Plants in the Neighbourhood of Huddersfield," by T. W. Woodhead, and "Butomus umbellatus," by Woodhead and Kirchner.

The Committee consists of Messrs. C. Crossland, G. T. Porritt, and W. West (Trustees), with Dr. T. W. Woodhead as Librarian.

**British Association.**—The British Association this year was held at Leicester, and the Hon. Sec., Mr. Sheppard, represented the Union at the conference of delegates from scientific societies which was there held. Amongst the matters discussed by the delegates were: the Question of Local Geography, Botanical Survey, etc.; the Preservation of Ancient Monuments; the Study of Fungi, etc. In most of the work suggested, however, it was found that the Yorkshire Naturalists' Union was already taking a prominent part; and with regard to the study of fungi, our society was congratulated on being the first to have produced a county fungus flora.

Mr. Sheppard has been appointed delegate for the Union for the 1908 meeting at Dublin.



The "Naturalist" still continues to forge ahead in the estimation of an increasing number of readers. Its wealth of illustration, and the variety, quantity, and interest of its printed matter, do great credit to the contributors and to the editorial staff, and your executive desires to take this opportunity of expressing its great appreciation of their efforts.

The Presidency for 1908 has been offered to and accepted by Dr. Wheelton Hind, F.G.S.

The Union desires to express its indebtedness to Mr. C. Crossland for his services during the year. Mr. Crossland has attended nearly all the meetings, and has taken a deep personal interest in the affairs of the Union in the past year, as in preceding years.

**The Treasurer of the Union.**—In accordance with the wishes of Mr. J. H. Howarth, expressed at the Annual Meeting at York, the Executive had to consider the question of finding a Treasurer in his place. The sub-committee which was appointed approached Mr. H. Culpin of Doncaster, who has accepted the office.

The Executive wishes to record its great indebtedness to Mr. Howarth for his successful management of the Union's finances at a time when much care in connection with the matter was required.

**Secretaryship.**—To assist the Hon. Secretary as much as possible, will all those members who can, kindly give instructions to their bankers to pay their subscriptions in to the Union's bankers direct. Forms for this purpose will be gladly sent on application being made to the Secretary of the Union.

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The Balance Sheet, etc., for 1907 will be found at the end of the 1908 Report.

# YORKSHIRE NATURALISTS' UNION.

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## FORTY-SEVENTH ANNUAL REPORT, FOR 1908.

*Presented at Doncaster, December 10, 1908.*

The Executive Committee of the Yorkshire Naturalists' Union has pleasure in presenting the following report of the work of the Union during the past year.

**The Forty-sixth Annual Meeting** was held at Halifax on December 14th, 1907, and that town certainly kept up its long reputation for a keen interest in scientific research. Messrs. W. Simpson and W. Fielding conducted the geologists to Beacon Hill and Southowram, and other members visited the interesting Natural History Museum, under the guidance of Mr. W. B. Crump.

At the afternoon sectional and general meetings, the reports presented showed that practical interest had been taken in the various branches of the Union's work, and that some valuable results had been obtained. The President, Mr. C. Crossland, who was supported by the Mayor of Halifax, (Ald. W. Wallace), gave an excellent address on the Study of Fungi in Yorkshire. This was printed in our journal "The Naturalist," for March and April, and is a comprehensive record of the work of mycologists in this county. A *conversazione* held in the Bankfield Museum proved exceedingly enjoyable, the many valuable exhibits affording exceptional interest. Twenty-three new members were elected, and three societies were affiliated with the Union.

The usual **Six Field Meetings** have been held, the attendance varying according to circumstances. Work of a most valuable character has been carried out, resulting in many important additions to our lists of the Fauna and Flora.

The excursions were held as under :—

- For York, N.W.—Topcliffe (May 16th).
- „ S.E.—Hornsea (Whit Week-end, June 6th to 8th).
- „ S.W.—Hampole (Thursday, July 16th).
- „ N.E.—Osmotherley (Bank Holiday Week-end, Aug. 1st to 3rd).
- „ Mid. W.—Clapham (Week-end, Sept. 5th to 7th).
- Fungus Foray.—Mulgrave Woods (Sept. 19th to 24th).

**Topcliffe.**—There was a representative gathering at Topcliffe, though as the excursion was only for a day, and the district was somewhat out of the way, the scientific results were not so marked as on some of the other occasions. Dr. W. G. Smith presided, and an opportunity was taken of conveying to him the Union's hearty congratulations on his appointment to Edinburgh; though, at the same time, his departure from Yorkshire was deplored. A party of mycologists spent a week-end in the district, and in this way the report of that section is much more complete than that of the other sections. A report of the meeting appears in "The Naturalist" for July. A subsequent report on the Mollusca of Brafferton was printed in "The Naturalist" for August.

Thirteen new members were elected, and three Societies were affiliated with the Union.

**Hornsea.**—Whit week-end at Hornsea was exceptionally well attended; the whole of the accommodation at the Alexandra Hotel, secured in advance, being insufficient. During the three days the district to the North of Hornsea, the Mere, and the coast-line were systematically investigated. The Ornithologists particularly profited by the facilities offered for studying bird-life in the vicinity of Hornsea Mere. An illustrated and lengthy report of the meeting appears in "The Naturalist" for August. Four new members were elected.

At this meeting a vote of congratulation was passed to Lord Avebury, for his efforts with regard to the Sale of Plumes Bill.

**Hampole.**—This Excursion was held on Thursday, July 9th, and was but poorly attended. Those present, however, had an enjoyable day, and some additions to the known Fauna and Flora of the district were made. Lists of species obtained, together with a general report of the Excursion, by Mr. Wroot, appeared in "The Naturalist" for October. Three new members were elected.

**Osmotherley.**—During August Bank Holiday week-end there was a very representative gathering at Northallerton for Osmotherley, and this much-neglected district was carefully examined. The accommodation having to be provided at some distance from the field of operations had its disadvantages, but, by the aid of wagonettes, the party was each day soon on the ground. The botanists were particularly in evidence, and, in addition to the full and illustrated report in "The Naturalist" for November, Mr. T. Gibbs has recorded a new puff-ball for Britain in the December number, p. 457.

One new member was elected.

**Clapham.**—As was expected, the Clapham Excursion held during the week-end September 5th to 7th, was largely geological in its scope. Representatives of other sections were present, and duly reported on the work accomplished. The geologists were fortunate in securing the services of the veteran geologist—Professor T. McKenny Hughes, F.R.S., who has made the district his special study. The Professor proved a veritable guide, philosopher and friend, and his presence made the Excursion quite a red-letter day in the Union's annals. An illustrated report appears in "The Naturalist" for December.

Two new members were elected.

**Mulgrave.**—As will be seen from the report of the Mycological Committee which appear on another page, the Annual Fungus Foray at Mulgrave Woods, September 19th to 24th, proved, in every way, to be the most successful yet held. A full report of this excursion will appear in "The Naturalist" for January.

Mr. Crossland has had printed the list of the whole of the species collected, a copy being sent to the members attending the foray, and he has also deposited one in the Soppitt Memorial Library, as well as one with the Secretary of the Union.

As a direct result of the Union's excursions, the following items have appeared in our journal:—

"Coleoptera in Yorkshire, 1907," by E. G. Bayford, in "The Naturalist" for January.

"Interesting Diatoms in Wharfedale," by R. H. Philip, in "The Naturalist" for January.

"Yorkshire Naturalists at Halifax," in "The Naturalist" for January.

"The Study of Fungi in Yorkshire," by C. Crossland, in "The Naturalist" for March and April.

"Recently Discovered Fungi in Yorkshire," by C. Crossland, in "The Naturalist" for June.

"Mosses, etc., at Horton-in-Ribblesdale," by C. A. Cheetham, in "The Naturalist" for June.

"An Excursion to Topcliffe, Yorkshire," in "The Naturalist" for July.

"Mollusca at Brafferton," by W. Denison Roebuck, in "The Naturalist" for August.

"Hornsea, its Mere and Coast-line," in "The Naturalist" for August.

"Yorkshire Naturalists at Hampole," in "The Naturalist" for October.



"On the Fringe of the Cleveland Hills," in "The Naturalist" for November.

"Clapham: its Geology and Natural History," in "The Naturalist" for December.

"*Bovistella paludosa* Tev., A Puffball new to Britain," by T. Gibbs, in "The Naturalist" for December.

And also the following short notes:—

"*Cochlearia danica* at Arncliffe," by C. Waterfall, in "The Naturalist" for January.

"*Corymbites castaneus* L. and *Scymnus nigrinus* Kug., in Yorkshire," by M. L. Thompson, in "The Naturalist" for October.

"*Helix aspersa*, var. *exalbida*, at Hornsea," by F. H. Woods, in "The Naturalist" for October.

"*Trichopteryx bovina*, Mots. in Yorkshire," by M. L. Thompson, in "The Naturalist" for December.

**Excursion Programmes** setting forth in detail the Natural History and Geological features of the districts visited, have been regularly printed and circulated amongst the members and associates. Extra copies have been struck off, and will eventually be bound up, to appear in the Union's Transactions.

**Permission to visit Estates** has almost unanimously been given by the various land-owners throughout the county, and, in some instances, the owners have personally helped to make our visits enjoyable and profitable.

**Railway Facilities** have also been kindly granted by the different railway companies as in past years, and this privilege has no doubt largely contributed to the success attending the meetings as regards the numbers present.

**Excursions for 1909** are recommended as under:—

York, S.W.—Cawthorne, August 28th.

„ N.W.—Sedbergh (August Bank Holiday week-end,  
July 31st-August 2nd).

„ Mid W.—Bowland (Whit Week-end, May 29th-May  
31st).

„ N.E.—Runswick, Saturday, July 3rd.

„ S.E.—Market Weighton, May 8th.

Fungus Foray, Castle Howard, September 18th-23rd,

**The Annual Meeting for 1909**—By the invitation of the Scarborough Field Naturalist Society, the Annual Meeting for 1909 will be held at Scarborough, about the middle of December.

**Objects of the Union.**—Circulars setting forth the objects and aims of the Union, will be gladly sent on application to the Secretary of the Union.

**Winter Lecture Scheme.**—The list of lectures referred to in the last Annual Report is still in operation, and the associated societies have largely drawn from it in connection with their Winter Syllabuses.

**The Associated Societies.**—The number of associated societies shows a satisfactory increase. During the year the new York and District Field Naturalists' Society, the Honley Botanical Society, and the Craven Naturalists and Scientific Association have joined the Union, and the Hull Co-operative Field Naturalists' Club has ceased to exist on its old lines, and has severed its connection with the Union. The old York Society has ceased to exist. The Craven Society has been affiliated for many years, but has now agreed to pay the fee of 10/6 per annum, thus practically adding to the strength of the Union to the extent of one subscriber.

**The Statistics** furnished by Secretaries of affiliated societies show that the average membership of each society is now 86·5, or a total of 3636. Added to this the membership of the Union, the total numerical strength is 4063.

**The Membership** of the Union now stands at 427. This number does not include the 42 affiliated societies, each of which is practically a member.

The following new members and societies have joined the Union during the year\* :—

- Armstrong, A. L., 12 Dragon Avenue, Harrogate.
- Buckton, C., Baldersby Brooms, Baldersby, S.O.
- Collier, Rev. C. V., M.A., F.S.A., East Harlsey Parsonage  
Northallerton.
- Craven Naturalists' Association, c/o T. H. Holmes, Hon. Sec.,  
20 Castle View, Skipton.
- Crozel, Prof. Georges, Quai St. Antoine, 34 Lyon, France.
- Dean, Alfred, Longsight Terrace, Brougham Road, Marsden,  
near Huddersfield.
- Elliott, Miss Lucy, Spring Place, Laisteridge Lane, Bradford.
- Forrest, H. E., Hill Side, Bayston, Shrewsbury.
- Gott, Emmott, 143 Park Row, Heaton, Bradford.
- Haigh, Charles, 32 Park Field Avenue, West Bowling,  
Bradford.

\* This list includes those elected at the Annual Meeting at Doncaster.

- Hargreaves, J, A., 3 Ramshill Road, Scarborough.  
 Harrogate Public Library, Geo. W. Byers, Victoria Avenue,  
 Harrogate.
- Honley Botanical Society, c/o J. T. Collier, 11 School  
 Street, Honley.
- Kershaw, R., F.R.H.S., 10 Briggate, Brighouse.  
 Laverack, C. C., Ph.C., Broughton Rise, Malton.  
 Lund, Edgar, c/o Messrs. Thos. Drummond & Sons, Ltd., Lumb  
 Lane, Bradford.
- Major, Rev. H. D. A., M.A., Clergy College, Ripon.  
 McDonald, James E., 14 Ellen Street, Heaton Norris, Stockport.  
 Needham, James, Wood End, Hebden Bridge.  
 Patten, C. J., M.A., M.D., Sc.D., Prof. of Anatomy, University,  
 Sheffield, 9 Summerfield, Broomhill, Sheffield.
- Relf, Miss Florence C., Chepstow House, Oxford Road, Wake  
 field.
- Robinson, W., B.Sc., 22 Harley Street, Hull.  
 Robinson, J. H., Carlinghow, Batley.
- Sanderson, A. R., 109 Lower Ruston Road, Thornbury, Brad-  
 ford.
- Scruton, H. A., B.Sc., F.I.C., 33 Southfield Road, Middlesbro'.  
 Silverlock, Oscar C., Allington, Burbage Road, Herne Hill, S.E.  
 Sowden, John, 1 Blenheim Road, Bradford.
- Sykes, A. W., High Close, Kidroyd, Huddersfield.  
 Tait, A. Lower House, Lepton, Huddersfield.  
 Walker, Herbert, Beechwood Grove, Ilkley.  
 Whitaker, Frank W., 10 Upper Howard Street, Batley.  
 Whitehead, Rev. G. T, The Rectory, Thornton Watlass,  
 Bedale.
- Winter, G., Baxtergate, Doncaster.  
 Winter, A. E., Baxtergate, Doncaster.
- York and District Field Naturalists' Society, c/o S. H. Smith,  
 Hon. Sec., 20 Park Crescent, York.

We regret to record the deaths of—

- H. C. Sorby, LL.D., F.R.S., Sheffield.  
 Philip Loten, Easington.  
 Matthew Bailey, Flamborough  
 J. B. Charlesworth, Derby.  
 The Rt. Hon. Lord Herries, Everingham Park.  
 William Waite, Cliff Cottage, Clayton West.

**Divisional Secretaries.**—These gentlemen have again mater-  
 ially assisted the Union, and the General Secretary, in the work  
 of making arrangements for the Excursions, etc.

The following are proposed for 1909 :—

York, S.W.—A. Whitaker, Saville House, Worsborough-  
Bridge, Barnsley.

York, Mid W.—Riley Fortune, Penrhyn House, Haywra  
Street, Harrogate.

York, N.W.—W. Robinson, Greenbank, Sedbergh.

York, N.E.—J. J. Burton, Nunthorpe, R.S.O., Yorkshire.

York, S.E.—J. W. Stather, Newland Park, Hull.

**Local Treasurers.**—As in past years, the local treasurers have kindly given assistance in the matter of collecting subscriptions. Mr. T. F. Ward wishes to resign for Middlesbrough, and Mr. M. L. Thompson kindly undertakes the duties. The following are proposed for 1909 :—

Bradford—H. E. Wroot, 45 Pollard Lane, Bradford.

Halifax—C. Crossland, 4 Coleridge Street, Halifax.

Huddersfield—W. E. L. Wattam, 54 Towngate, Newsome,  
Huddersfield.

Leeds—H. Ostheide, 91 Harehills Avenue, Leeds.

Malton—M. B. Slater, Newbiggin, Malton.

Middlesbrough } M. L. Thompson, Gosford Street, Middles-  
Saltburn } brough.

Redcar—T. H. Nelson, Seafield, Redcar.

Scarborough—J. H. Rowntree, Folkton Manor, Ganton, York.

Sheffield—A. T. Watson, Southwold, Tapton Crescent,  
Sheffield.

Skipton—J. J. Wilkinson, Burnside, Skipton.

Whitby—Thomas Newbitt, 17 Royal Crescent, Whitby.

**General Committee.**—At the Halifax meeting, the following were elected to the General Permanent Committee of the Union :—

W. P. Winter, Moorhead, Shipley.

R. Fowler Jones, 8 Lendal, York.

W. E. L. Wattam, 54 Towngate, Newsome, Huddersfield.

C. A. Cheetham, Glenmoor, Armley, Leeds.

W. H. Parkin, Studholme, Shipley.

W. Wilson, Ryedale, Keighley Road, Colne, Lancs.

The following were elected at Doncaster.—

F. Jowett, Vincent Street, Bradford.

F. Eidge, 24 Kensington Road, Middlesbrough.

Rev. F. H. Woods, The Rectory, Bainton.

F. Lawton, Carlton Terrace, Skelmanthorpe,

W. Harrison Hutton, 44 Dial Street, Leeds.



A. R. Dwerryhouse, D.Sc., F.G.S., 10 Ashwood Villas,  
Headingley, Leeds.

B. Morley, Wind Mill, Skelmanthorpe, Huddersfield.

A. Gibson Robertshaw, Luddendenfoot, R.S.O.

**Transactions.**—This question stands where it did in the 1907 report, with the exception that there are in addition, the reports for 1907, and the reprints of excursion programmes for 1908 (already printed off) to be added to the suggested Miscellaneous Volume. Dr. F. A. Lees has also in an advanced state of preparation a supplement to his 'Flora of West Yorkshire,' bringing his records up to date, and we have in hand an admirable account of Yorkshire Arachnida, by Mr. W. Falconer. The Executive Committee is having a special meeting early in the new year to deal with the question of publishing these.

### SECTIONS AND COMMITTEES.

The President and Secretary of the Union are ex-officio Members of all the Sections and Committees.

### VERTEBRATE SECTION REPORT, 1908.

**General.**—The Vertebrate Section has been represented at all the meetings of the Union held during the year. The greatest number present was at the Hornsea meeting, when we had quite a large gathering; the least number was at Hampole.

All the meetings were full of interest. Members were pleased to see the numbers of Pochards, Tufted Ducks, and Reed Warblers at Hornsea, and to find that several Great Crested Grebes were evidently nesting there. The Herons, too, claimed a good deal of attention. The only other matter of special importance during the season, *i.e.*, on the excursions, was the finding of the Stonechats nesting inland, near Osmotherley.

**Indoor Meetings.**—During the year, two or three meetings of the Section have been held at Leeds, and have been exceedingly successful. They were well attended, papers and reports were presented, and specimens and lantern slides were exhibited. Some of the items have been placed on permanent record in our journal, "The Naturalist."

**West Riding Notes.**—Mr. R. Fortune writes:—The late arrival of migrants was again very noticeable. The Spring of 1907 was an exceptionally bad one, but 1908 was even worse. In many districts the summer birds did not put in appearance until the Spring was well advanced. March was exceptionally cold and stormy.

April being quite as bad. The severe snow storms at the end of that month caused a great deal of destruction amongst the eggs of certain birds. Grouse did not suffer as much as one might have expected; indeed, on some moors, record seasons have been experienced. Partridges have varied considerably, some districts being quite up to the average, whilst others were very much below.

Corn Crakes have, in most districts, been very scarce, but in the Harrogate area, they have been more plentiful than for many years. In one small field no fewer than three nests were found. Many of the migrants were exceptionally scarce, Whinchats being especially so in the Harrogate district. Spotted Flycatchers were unusually late in arriving, but eventually came in greater numbers than ever. Pied Flycatchers appear to have nearly missed us altogether; they were extremely rare in Bolton Woods, where several pairs are usually to be found nesting. Some of the Swifts lingered well into September, though the main body left about the middle of August. House Martins continue to increase slightly. An interesting event occurred at Starbeck, where three White Swallows and two of normal plumage were hatched in one nest. The white ones were seen daily on the wing, until the time for their departure. It will be interesting to note if they return in 1909. It is, however, quite possible that the bird reported as shot at Otley, may have been one of them. A visitor to Ilkley reported in "The Field" that he had observed Sand Grouse and a Black Stork in the district. It is quite possible, in the face of subsequent records of the Sand Grouse in the county, and other parts of England, that he was correct in the first instance, but it is extremely doubtful with regard to the Black Stork especially as it was only seen upon the wing "heading for Hornsea."

The latter end of October witnessed a great migration of birds, and for many nights quantities of Redwings, Waders, etc. were passing continually. During this month also, three Fork-tail Petrels were picked up, one at Barnsley, one at Doncaster, and one at Flamborough, in the East Riding; pointing to a passage of these birds.

No specially rare bird except the Sand Grouse, has been recorded for the Riding. One fact deserves notice, viz., the extremely late nesting of many species of birds. Numbers of nests were found with eggs and young right into October; a Kingfisher rearing its young at Bentham in the middle of that month is specially noticeable. Swallows had fresh eggs at the end of September, and two swallows were seen at Knaresborough on November 20th.

Several species of birds continue to increase as breeding species, viz., Turtle Doves, Goldfinches, Red-legged Partridges and Tufted Ducks.

**East Riding.**—Mr. E. W. Wade writes:—The very early breeders, *e.g.*, Rooks, seem to have been somewhat retarded, only 25% of the birds in some rookeries having full clutches by the end of March, but an abundant supply of food seems to have enabled them to make up for lost time, as the young ones were ready for shooting on the usual date, 12th May, and certainly showed no deficiency in number. Other rookeries on the contrary, showed full clutches at the usual date. Mr. C. W. Mason reports that he has seen six eggs in the same Rook's nest for three consecutive seasons.

The heavy snow storms in the South during the third week in April certainly had the result of keeping back the spring migrants which were all exceptionally late. The earliest Willow Warbler observed was on 18th April; the first Swallow on 23rd April, whilst most of the Warblers and the Cuckoo did not make their appearance till the end of the month, or the first week in May.

The reports of the numbers of these birds breeding with us are conflicting. Mr. H. R. Jackson found the Warblers up to the average in Holderness, whilst Mr. F. Boyes, on the other hand, noted in some localities an entire absence of familiar visitors, and a general scarcity of Warblers round Beverley and the River Hull District, where also the Whinchat and House Martin were particularly conspicuous by their absence. Is it possible that the snow retarded these birds, and kept them further south? The Wheatear lingered in Holderness till mid May, and at Bempton a pair was observed feeding young in June, presumably having bred in the locality. The Goldfinch shows no increase in numbers, a few pairs frequenting favourite localities only, and it shares with the Lesser Redpole the position of being one of our scarcest birds. The Chaffinch has been exceptionally numerous, and successful in rearing its young. The Hawfinch is still on the increase as a breeding species in Holderness. The Cuckoo has again stayed very late with us, two being seen at Bempton on 6th September. The Turtle-dove has this season been observed in a new locality, viz., Waghen, by Mr. S. H. Waterhouse, but otherwise seems to have made little headway in Holderness. To the west and south-west of Beverley, it seems to be becoming generally distributed.

The most interesting event of the season is the occurrence of a flock of Pallas' Sand Grouse on the northern slope of the Wolds, as reported by Mr. W. H. St. Quintin in "The Naturalist" for November. A rumour of the birds being in a different part

of the Wold District had also reached Mr. F. Boyes. May they be only the pioneers of another general immigration!

Partridges generally have fared even worse than last year, and, except in a few favourite localities, seems to have hardly reared any young.

It is singular that the Red-legged Partridge has extended its breeding ranges round the coast-line, but does not figure in the game bags of some of our largest Wold shootings, *e.g.*, Londesboro' and Warter. The records made last year point to its migrating along the coast, which its occurrence at Bempton earlier than on the high Wolds seems to corroborate.

The Woodcock remained in the Burton Constable woods till about the end of April, but there is no evidence of its having bred there.

The Redshank has appeared as a breeding species in a new district in Holderness.

The Spurn District has been dealt with by the Yorkshire Naturalists' Union Protection Committee, who have special reports from the watcher, but we are pleased to record the occurrence of two rare visitors, *viz.*, a Blue-throated Warbler, shot on 29th September, and a Yellow-browed Warbler, shot 30th September, by Mr. H. F. Witherby, who saw several others of each species there at the same time. Eighty brace of Woodcock were shot at Spurn in the week commencing 9th November.

Amongst unseasonable occurrences we may mention that a Grasshopper Warbler was in full song at Reighton Gap, on 2nd and 3rd August, half way down the cliff, and sang most of the day. It appears hardly credible that the bird could be breeding at that date.

Mr. W. H. St. Quintin reports the breeding of the Garganey in the north of the East Riding for the first time. Two Sabine's Gulls and a Fork-tailed Petrel are reported by Mr. Hewett, at Flamborough, in October, and a Great Northern Diver in November.

**HORNSEA MERE.**—The keeper, J. Taylor, reports that the Great Crested Grebe has dwindled down to three birds. Undoubtedly the bird is being harried to death by egg-collectors, and as certainly the visits of parties of naturalists to the mere, however good for the naturalists, have a contrary effect upon the birds, the publicity given to these expeditions verbally, and in the press, attracting other parties, whose attentions are not confined to observation only. Surely the Yorkshire Naturalists' Union Protection Committee could do something here, by putting on an extra watcher during the months of May and June,\* when a

\* This suggestion has now been agreed to by the Birds' Protection Committee.



keeper's time is too fully occupied on land to look much after the water birds. Mr. Riley Fortune reported the breeding of the Tufted Duck at Whitsuntide, and the other birds remain pretty much at their usual level. A pair of Teal bred at the Mere—an unusual occurrence—and a Shoveller successfully hatched young in a meadow at some distance from the water. The Reed-Warblers were fully up to the average numbers, and laid full clutches. The Brown Owl has unfortunately contracted a habit of eating young Pheasants, and has suffered the extreme penalty in one instance.

**BEMPTON.**—As already reported, the Falcons have bred again, and reared one young one. The warm weather had a marked effect upon the sea-birds, Guillemots and Razor-bills being several days earlier than usual in commencing to lay. A few Guillemot's eggs were seen on 6th May, and some were hard-sat on 30th.

Owing to the absence of rain, climbing was carried on without a break through May and June, the birds being early in both first and second scale or fling. J. Hodgson commenced on 18th May, and had only two really slack days, viz., during first week in June, till 13th of the month. From 20th to about 27th June was a slack time, and the third scale commenced just as the season was closing. W. Wilkinson's old ground was about a week later. Speaking generally, the output of eggs was earlier, more concentrated, and over sooner than last year.

In Wheeldale on 3rd May, the writer, in company with the keeper, watched a cock Stonechat for about an hour. Apparently the bird had a sitting mate near, but did not go to the nest.

**North Riding.**—Mr. T. H. Nelson writes:—On New Year's Day a male Black Redstart was discovered in a greenhouse near Redcar, which it had entered during the night. At first it fed on aphides, and soon became very tame. Afterwards I several times watched it feeding on meal-worms, and for nearly four months it had the range of the greenhouse, roosting at night in an acacia plant; unfortunately, it died on 20th April. On January 8th, a second year's Glaucous Gull was shot. April 27th, several flocks of Whimbrels were resting on the sands, on their northward migration; a full clutch of Redshanks' eggs was found at the Teesmouth. April 30th, a Black Tern appeared on the marshes, and continued to frequent the small ponds there till towards the end of May; I several times saw it hawking for insects, when it repeatedly flew within a few yards of where I was standing. A pair of Pochards also, was noted during May, on the same marsh, where the birds probably nested. On the 3rd May I saw several Swifts, and on the 5th there were large numbers.

On the same date considerable flocks of Whimbrels were at the Teesmouth. On the 10th, two pairs of Sandwich Terns were busily fishing near Redcar Pier. May 25th, a Sheld-duck's nest, in the side of the breakwater, was in so exposed a situation as to preclude the chance of its escaping; the eggs, therefore, were taken and set under a hen, nine being hatched and the ducklings successfully reared.

July 3rd, Whimbrels were returning south, and for the first two weeks of this month large flocks arrived. July 16th, having been informed that a Sand Grouse had been found in East Cleveland, I journeyed to Loftus and visited the bird-stuffer who had preserved it. The specimen was a male in very good plumage. Three birds had been seen for upwards of a week in early June in a field of young corn. The example I examined had apparently flown against some obstruction, as there was a deep wound in the breast, and was picked up dead. The other two birds remained in the vicinity for several days, being last seen between Loftus and Staithes about the end of June.

During August, Sandwich Terns were abundant in the Tees estuary, and in September there were great flocks of the usual shore birds—Godwits, Knots, Grey Plover, and smaller species; several Ruffs and Little Stints were also observed.

On September 8th, eight Swifts were flying round one of the terraces on the Esplanade. September 23rd a great rush of small migrants occurred—Gold-crests, Pied Flycatchers, Redstarts, Wheatears, and other species—the weather being foggy, calm and warm. This rush appears to have been co-incident with that reported in Holderness by Mr. H. F. Witherby, and by other observers in Norfolk.

October 14th, foggy and calm. Another rush of small birds, and on 17th and 18th, wind E.S.E. with rain, immense flights of Duck, Woodcock, Short-eared Owls, Hawks, Hooded Crows, Shore Larks, Snow Buntings, Peewits and Larks. October 26th, wind S.E., foggy.—Field-fares, Redwings and Thrushes passed incessantly during the night, and were heard calling as they flew by in the darkness. Again on the 31st, a similar flight was observed. November 6th, the heaviest flight of Woodcock noted here for several years took place; they were reported in great plenty from the banks on both sides of the town, and also at the breakwater, where many were shot. Judging from notices in the papers, this flight seems to have been general along the East Coast, extending as far north as Inverness, where, on the 6th and 7th, a shooting party bagged seventy-two cock.

On the morning of the day on which these notes are being written (16th November), a Woodcock came from over the sea

and across the sands within twenty yards of where I was walking. It flew strongly and swiftly as any newly-flushed bird in a covert.

November 13th, an Eared Grebe was brought to me for identification; it being one of three that had been seen swimming inside the scars, and at the same time a Grey Phalarope was reported.

Up to the date of writing the autumn has been remarkably mild and free from gales. This, no doubt, has facilitated the flight of immigrants, and great numbers have been able to make the passage with ease, and have moved on without resting.

**Mammalia, Reptilia, etc.**—Mr. Fortune writes:—No records of any moment have been published respecting these branches. There is no doubt that Badgers increase in numbers; a young one, about half-grown, was found asleep on a road near Grewelthorpe. It was taken to Hampsthwaite by its captor, a collar was put round its neck, and it was chained up in a stable. It managed to effect its escape, but unfortunately it hung itself through the chain catching in a branch when going through a hedge. Foxes in some districts are still affected with mange, but the disease appears to be dying down rapidly. Hares have, in some localities, suffered considerable mortality amongst the young ones.

With regard to the Vertebrate Fauna, other than the birds, the Committee is of the opinion that they should undertake the systematic working out of their distribution, with a view to an early publication, in order to complete the Vertebrate Fauna of the county. Mr. Roebuck read a short paper, giving suggestions as to how this important matter should be dealt with, at the meeting of the Section, held at Leeds on November 21st.

With regard to Fishes, there is nothing special to report.

The following Officers were elected for 1909:—

President—Riley Fortune, Harrogate.

Secretaries—H. B. Booth, Ryhill, Ben Rhydding; W. H. Parkin, Shipley; T. H. Nelson, Redcar; E. W. Wade, Hull.

Representative on Executive—Prof. Patten, Sheffield.

Representative on Committee of Suggestions—W. H. Parkin.

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**The Yorkshire Mammals, Amphibians, Reptiles and Fishes Committee.**—On the suggestion of the Vertebrate Section, the Executive Committee recommended the formation of a special committee for the investigation of the vertebrate fauna of the county, other than the birds, which have recently been fully dealt

with in "The Birds of Yorkshire." The object of the Committee is to thoroughly investigate the present distribution of the various species in the county, as well as to examine and tabulate previous records, with the view to publishing the results in the series of monographs being issued by the Union.

The following were elected for the first officers :—

Chairman—A. Whitaker, Barnsley.

Convener—W. Denison Roebuck, 259 Hyde Park Road, Leeds.

Representative on Executive—A. Whitaker, Barnsley.

Representative on Committee of Suggestions—A. Whitaker, Barnsley.

Other Members—R. Fortune, Harrogate ; H. B. Booth, Shipley ; F. Lawton, Skelmanthorpe ; Oxley Grabham, York.

**Wild Birds' and Eggs' Protection Committee's Report.**—The Committee is pleased to record that it has this year received much more encouragement and support ; the respectable sum of £45 3s. being received in subscriptions. To Mr. Milnes Gaskell we are particularly indebted for a generous donation of twenty pounds. A balance of £7 6s. 7d. was left over from last year, thus making our total fund for 1908 £52 9s. 7d. The expenses have been £19 18s. 6d., there is therefore a balance in hand for the work of 1909 of £32 11s. 1d.

It is extremely gratifying to find that the Societies affiliated to the Union have supported us in a better way, but there is still room for improvement in this respect.

There are about forty-three Societies in the Union ; subscriptions have been received from sixteen, as against four last year. It may be interesting to note that fourteen of these are West Riding Societies, one North Riding, one York. The Societies of the East Riding, where most of our money has been spent so far, have not assisted as Societies, though one or two individual members have helped.

During the year, Spurn has again received full attention, a watcher being employed during the whole of the nesting season. The Lesser Terns have had a very successful time ; early in June, fifty-five nests were counted, with full complements of eggs, and it is satisfactory to know that practically all hatched off safely.

Some few nests were destroyed during a heavy gale on June 6th, by the eggs being buried in drifting sand. but in all probability the birds laid again. Mr. Booth and myself saw newly-hatched young ones on June 8th. Ring Plovers were very abundant. The Terns seem to prefer the extremity of the point, but the



Plovers are found over the whole length of the promontory, on both sides ; being, however, much more numerous on the sea side.

Sheld Ducks appear to be increasing. Sixteen adult birds were seen together on the margin of the warren pond early in June. Oyster catchers do not seem to favour the point for nesting purposes, but resort to spots further up the Humber.

The Peregrines at Bempton nested safely once more, but only succeeded in rearing one young one. Photographs of this, together with some extremely interesting notes by Mr. Wade, have appeared in "The Naturalist."

On a certain warren, five pairs of Stone Curlews nested in security, and one pair on some adjoining waste land.

With regard to the Hen Harriers, the keeper saw the ♂ bird regularly throughout the summer, and in the first week of August saw three birds together, which made him think they must have nested, although he did not see the nest

Several successful prosecutions have been undertaken at the instance of the Committee. One at Kirkby Stephen, for taking young Peregrines ; one at Skipton, for shooting a Buzzard ; and one at Otley, for shooting a white Swallow. In each case the magistrates expressed their determination to put down the senseless slaughter of rare birds. In the case of the Peregrines, the defendant had to release the birds in the presence of the Police as soon as they were strong enough to fly.

Another case of shooting a Buzzard at Arncliffe came before the Committee, but it was not possible to obtain sufficient evidence to warrant a prosecution, although, no doubt, the publicity given to the affair in the dale will have good results. This Committee is particularly indebted to the Bradford branch of the R.S.P.C.A., who sent one of their Inspectors from Bradford into the dale to procure evidence for us.

These cases bring most effectually to the notice of the public the fact that there is an active body of naturalists, which is determined to do all it can to preserve the avian fauna of the County. The police have seconded our efforts in a thoroughly able and whole-hearted manner, and are evidently willing to do all they can to help us. If any member of the Union can supply accurate information of any infringement of the Protection Acts, in case he does not wish his name to be brought into prominent notice, it is always possible to obtain the aid of the police to deal with the case.

A large number of posters was circulated and posted in various parts of the County, drawing the attention of the public

to the Wild Birds' Protection Act, and especially to the necessity of protecting certain species.

The Committee have decided to employ the watcher at Spurn during the nesting season of 1909. They will also employ one for Hornsea Mere, and continue the special donations for the protection of the Stone Curlews, Hen Harriers, Peregrines, etc.

**RECEIPTS FOR 1908.**

|   | £  | s. | d. |
|---|----|----|----|
| Balance left over from 1907 .. .. .                   | 7  | 6  | 7  |
| Mr. Milnes Gaskell .. .. .                            | 20 | 0  | 0  |
| Mr. W. H. St. Quintin .. .. .                         | 5  | 0  | 0  |
| Mr. L. Gaunt .. .. .                                  | 2  | 2  | 0  |
| Mr. Jasper Atkinson .. .. .                           | 1  | 1  | 0  |
| Mr. H. B. Booth .. .. .                               | 1  | 1  | 0  |
| Mr. C. E. Elmhirst .. .. .                            | 1  | 1  | 0  |
| Mr. R. Fortune .. .. .                                | 1  | 1  | 0  |
| Mr. Oxley Grabham .. .. .                             | 1  | 1  | 0  |
| Mr. T. H. Nelson .. .. .                              | 1  | 1  | 0  |
| Mr. G. T. Porritt .. .. .                             | 1  | 1  | 0  |
| Mr. W. D. Roebuck .. .. .                             | 1  | 1  | 0  |
| Mr. T. Sheppard .. .. .                               | 1  | 1  | 0  |
| Mr. T. Roose .. .. .                                  | 0  | 10 | 6  |
| Mr. E. W. Wade .. .. .                                | 0  | 10 | 9  |
| Mr. J. Wilkinson .. .. .                              | 0  | 10 | 6  |
| Mr. W. Wilson .. .. .                                 | 0  | 10 | 6  |
| Mr. W. H. Parkin .. .. .                              | 0  | 5  | 0  |
| Bradford Natural History and Microscopical Society    | 1  | 3  | 0  |
| Doncaster Scientific Society .. .. .                  | 0  | 10 | 6  |
| Halifax Scientific Society .. .. .                    | 0  | 10 | 6  |
| Shepley and District Naturalists' Society .. .. .     | 0  | 10 | 6  |
| York and District Field Naturalists' Society .. .. .  | 0  | 10 | 6  |
| Berry Brow Naturalists' Society .. .. .               | 0  | 10 | 0  |
| Crosshills Naturalists' Society .. .. .               | 0  | 5  | 0  |
| Doncaster Grammar School Natural History Society      | 0  | 5  | 0  |
| Greetland and West Vale Naturalists' Society .. .. .  | 0  | 5  | 0  |
| Heckmondwike Naturalists' Society .. .. .             | 0  | 5  | 0  |
| Honley Naturalists' Society .. .. .                   | 0  | 5  | 0  |
| Lindley Naturalists' and Photographic Society .. .. . | 0  | 5  | 0  |
| Milnsbridge Naturalists' Society .. .. .              | 0  | 5  | 0  |
| Ovenden Naturalists' Society .. .. .                  | 0  | 5  | 0  |
| Rotherham Naturalists' Society .. .. .                | 0  | 5  | 0  |
| Scarborough Field Naturalists' Club .. .. .           | 0  | 5  | 0  |
| Slaitwaite Naturalists' Club .. .. .                  | 0  | 5  | 0  |

£52 14 7

**Expenditure for 1908.**

|                               | £     | s. | d. |
|-------------------------------|-------|----|----|
| Rent of Room .. .. .          | 0     | 5  | 0  |
| Watcher at Spurn .. .. .      | 11    | 0  | 0  |
| Posters .. .. .               | 2     | 2  | 0  |
| Posting .. .. .               | 1     | 10 | 0  |
| Secretaries' Expenses .. .. . | 0     | 19 | 6  |
| Donations at Spurn .. .. .    | 1     | 1  | 0  |
| ,, re Stone Curlew .. .. .    | 1     | 0  | 0  |
| ,, re Harriers .. .. .        | 0     | 10 | 6  |
| ,, Bradford R.S.C.P.A... .. . | 0     | 10 | 6  |
| ,, Bempton .. .. .            | 1     | 0  | 0  |
|                               | <hr/> |    |    |
|                               | £19   | 18 | 6  |

The Committee for 1909 was elected as follows :—

Chairman—W. H. St. Quintin, D.L., J.P., Rillington, York.

Conveners—R. Fortune, Penrhyn House, Haywra Street, Harrogate; and T. H. Nelson, Redcar.

Representative on Executive—H. B. Booth.

Representative on Committee of Suggestions—W. Wilson, Skipton-in-Craven.

Other Members—T. Bunker, Goole; H. E. Dresser, London; Claude Leatham, Wakefield; Geo. T. Porritt, Huddersfield; A. Haigh Lumby, Bradford; A. Whitaker, Barnsley; Prof. Patten, Sheffield; W. H. Parkin, Shipley; L. Gaunt, Leeds; S. H. Smith, York; W. Denison Roebuck, Leeds; Oxley Graham, York; T. Roose, Bolton Abbey; and E. W. Wade, Hull.

**ENTOMOLOGICAL SECTION.**

NEUROPTERA AND TRICHOPTERA.—Several interesting species in these orders have occurred during the year. On July 4th, Mr. G. T. Porritt took in a wood near Sheffield, nine specimens of *Stenophylax alpestris* of which previously there were only about as many more known to have occurred in Britain altogether. On the same day, and in the same wood, he found *Hemerobius quadrijasciatus* in profusion, many of them so dark as to appear almost black when in the net. Mr. B. Morley found the rare *Limnophilus politus* in some plenty in Haw Park Wood, Wakefield, in the late summer. Only one previous Yorkshire specimen had been recorded, and of it the exact locality is unknown. He also took the local *Stenophylax*

*vibex* in fair numbers at Skelmanthorpe as usual. Messrs. G. T. Porritt and J. W. Carter found a few fine *Dictyopteryx mortoni* and an exceptionally early *Glossosoma vernale* by turning over stones on the River Wharfe at Grassington, on April 18th.

LEPIDOPTERA.—Mr. B. Morley, one of the Secretaries, reports for Lepidoptera that the insects comprised in the order have been more common generally during the past season than in 1907. Spring larva are reported as having been common, especially herbaceous feeders. "Sugar" was very attractive from mid-June to mid-September. In the West Riding the commoner species swarmed, while many of the more local species were not uncommon. After mid-September sugar was not of much use. The flowers of ragwort, campion, wound-wort, and especially heather were well visited by many species, and many noctuæ that are not attracted by either "sugar" or flowers have been found common.

The geometræ have not, however, been as much in evidence as the noctuæ, and perhaps always below the average.

Melanism has been very noticeable in many species as becoming more frequent.

Records of the following are worthy of special note:—*Acherontia atropos*, many from various parts of the county; *Sphinx convolvuli*, at Leeds and Horbury; *Agrotis obscura* and *Cirrhædia xerampelina*, at Hull; *Epione paralellaria*, scarce at York; *Dasytoplia templi*, at Lartington, and common at Skelmanthorpe; *Hydræcia petasitis*, common at Huddersfield and Normanton; *Cymatophora fluctuosa*, at Wakefield; and *Agrotis agathina*, at Skelmanthorpe.

*Abraxas grossulariata* claimed the attention of many lepidopterists in the county, immense numbers of larvæ having been gathered and reared in captivity, the result being the addition of some very fine varieties to collections.

The following Officers were elected for 1909:—

President—B. Morley, Skelmanthorpe.

Secretaries—(For Lepidoptera), A. Whitaker, Barnsley, and W. Hewett, York; (Hymenoptera, Hemiptera and Diptera), W. Denison Roebuck, Leeds; (Neuroptera, Orthoptera, and Trichoptera), G. T. Porritt, Huddersfield; (Coleoptera), H. H. Corbett, Doncaster.

Representative on Executive—W. Hewett.

Representative on Committee of Suggestions—W. Hewett.

**Coleoptera Committee.**—The work accomplished by the members of the Coleoptera Committee of the Yorkshire Naturalists' Union during the past season is very satisfactory in both quantity



and quality, and has resulted in the addition of seventeen species to the county list. Among these are several that doubtless are of common occurrence, but being inconspicuous and difficult of determination, they have hitherto escaped recognition. Others are, on the contrary, conspicuous insects that must have been recognised and recorded had they been previously captured, and these form very interesting additions to our local fauna. Besides these, we have many records of more or less rare and local species from new localities. A list, with locality and captor's name, is appended.

On the whole, the season has not been a good one for beetles, and collecting has been, in many cases, disappointing. The only species that have been recorded as of abnormal abundance are *Anchomenus dorsalis* L., at Doncaster during the Spring (H. H. C.) and *Amara aulica* Pz., near Scarborough, at the end of August\* (W. C. H.). It is somewhat remarkable that there are very few records of anything out of the common among the *Hydradephaga*, *Phytophaga* or *Heteromera*.

In the following list of species noted during the past season, those marked with the asterisk (\*) are new county records, and species marked (†) are new to the respective county division.

- Nebria livida* F. Twenty specimens south of Bridlington; one specimen north and one south of Sand-le-mere, Withernsea. T.S.
- Chlaenius vestitus* Pk. Four specimens, Bridlington. T.S.
- † *Amara lunicollis* Schiöd. Rossington, 20-5-08. H.H.C.
- Trechus micros* Hbst. Roundhay, Leeds. E.W.M.
- \* *Pogonus chaldeus* Marsh. Saltend Common, near Hull, common, T.S. See "Nat.," '08, p. 277.
- \* *Blechnus maurus* Stm. Fairly common on the Humber Bank at Marfleet and Saltend. T.S.
- Metabletus foreola* Gyll. Common at Skipwith Common. T.S.
- Ilybius fenestratus* F. Hornsea Mere, two specimens on Y.N.U. excursion, '08. T.S.
- Hydraena nigrita* Germ. Roundhay, Leeds. E.W.M.
- Hydraena pygmaea* Wat. Roundhay, Leeds. E.W.M.
- \* *Cercyon haemorrhous* Gyll. Saltburn, 5-08. M.L.T.
- \* *Microglossa nidicola* Fair. Roundhay, Leeds. E.W.M.
- \* *Phlaopora reptans* Gr. Cusworth, nr. Doncaster, 1-12-07. H.H.C.
- \* *Atemeles emarginatus* Pk. Rossington, 10-5-08. H.H.C.
- \* *Homalota angustula* Gyll. Leckby Carr, 16-5-08. M.L.T.
- Megacronus cinquulatus* Man. Leckby Carr, 16-5-08. M.L.T.
- Staphylinus pubescens* De. G. Scarboro', W.C.H.
- † *Philonthus sanguinolentus* Gr. Rossington, 5-08. H.H.C.
- \* *Sunius angustatus* Pk. Rossington, 5-08. H.H.C.

- † *Paederus riparius* L. Two specimens at the west end of Hornsea Mere, Y.N.U. excursion, '08. T.S.
- † *Stenus providus* Er. var. *rogeri* Kr. Hornsea; Pulfin Bog, near Beverley; South Cave; Endyke Lane, near Hull. T.S.
- † *Stenus canaliculatus* Gyll. Hornsea Mere. T.S.
- † *Stenus pusillus* Er. Hornsea Mere; Sutton; Keyingham; N. Ferriby; and other places in the East Riding. T.S.
- Stenus binotatus* Ljun. Sutton-on-Hull. T.S.
- † *Stenus bifoveolatus* Gyll. Flamborough; Leconfield. T.S.
- † *Stenus nitidiusculus* Steph. Kelsey Hill; Coniston Coppice; Weedley Springs; near Hull. T.S.
- † *Stenus picipennis* Er. Weedley Springs. T.S.
- † *Stenus cicindeloides* Gr. Hornsea Mere, several examples. T.S.
- † *Phloeobium clypeatum* Müll. Skidby, near Hull. T.S.
- † *Saprinus aeneus* F. Wheatley Wood. H.H.C.
- \* *Micropeplus margaritæ* Duv. Rossington. H.H.C.
- \* *Scymnus nigrinus* Kng. Osmotherley, 1-8-08. M.L.T.
- Epuraea angustula* Er. Rounday. E.W.M.
- \* *Enicmus fungicola* Thoms. Adel Moor, 8-08. E.W.M. This species was only added to the British list in 1907, see *E.M.M.* vol. xliii, pp. 103-104.
- Laemophlaeus ferrugineus* Steph. Adel Moor and Roundhay. E.W.M.
- † *Cryptophagus acutangulus* Gyll. Cusworth. H.H.C.
- \* *Cryptophagus bicolor* Stm. Cusworth. H.H.C.
- Georyssus pygmaeus* F. Abundant on the wet parts of Red Cliff, North Ferriby. T.S.
- Geotrupes typhaeus* L. Abundant at Rossington. H.H.C.
- \* *Corymbites castaneus* L. Ravengill, Pateley Bridge, 8-6-08. M.L.T. A very interesting addition.
- † *Corymbites holosericeus* F. Rossington. H.H.C.
- Ancistronycha abdominalis* F. Malham. J.W.C.
- † *Ptilinus pectinicornis* L. Arksey, nr. Doncaster. H.H.C.
- Gracilia minuta* F. Clapham and Thackley. F. Booth.
- Leptidea brevipennis* Muls. Thackley. F. Booth.
- \* *Strangalia quadrifasciata* L. Thorne Moor, 8-08. H.H.C.
- † *Grammoptera ruficornis* F. Hornsea Mere, Y.N.U. excursion, '08. T.S.
- Leiopus nebulosus* L. Saltaire. F. Booth.
- Pogonochærus bidentatus* Th. Hornsea Mere, Y.N.U. excursion '08. T.S.
- Donacia sparganii* Ahr. Sutton Drain, near Hull.
- \* *Donacia braccata* Scop. Common in a ditch on the Humber Bank near Marfleet. T.S. See "Nat.," '08, p. 277.
- † *Microsolum tibiale* F. Rossington. H.H.C.
- † *Notoxus monoceros* L. Spurn, two specimens. T.S.
- † *Trachyphlaeus scaber* L. Rossington, 22-5-08. H.H.C.

*Sitones griseus* F. Rossington, 7-10-08. H.H.C.

\**Balaninus brassicae* F. Rossington, 7-6-08. H.H.C.

†*Magdalis pruni* L. Rossington, 16-4-08. H.H.C.

The Constitution of the Committee for 1909 is as follows :—

Chairman—M. L. Thompson, 2 Thorncliffe Villas, Saltburn.

Convener—H. H. Corbett, Doncaster.

Representative on Executive and Committee of Suggestions—  
J. W. Carter, Bradford.

Other Members — H. Ostheide, Leeds ; W. Foggitt, J.P.,  
Thirsk, John Gardner, Hartlepool, Rev. W. C. Hey,  
M.A., West Ayton, W. Denison Roebuck, Leeds,  
E. W. Morse, Leeds, T. Stainforth, Hull, and E. G.  
Bayford, Barnsley.

**Yorkshire Hymenoptera, Diptera, and Hemiptera Committee.**—It is gratifying to note that the publication of the lists in the Victoria History, followed up by last year's work of this Committee, has been the means of stimulating active original investigation at Bradford, Doncaster, and Scarborough, and various good species of Aculeate Hymenoptera have been added to our list by Mr. Rosse Butterfield, Mr. H. H. Corbett, the Rev. W. C. Hey and others.

The following were elected for 1909 :—

Chairman—G. T. Porritt, Huddersfield,

Convener—W. Denison Roebuck, Leeds.

Referees—Percy H. Grimshaw, for Diptera ; Edward Saunders,  
C. Morley, Rev. F. D. Morice, M.A., for Hymenop-  
tera.

Representative ou Executive—

Other Members—E. G. Bayford, Barnsley ; Rev. W. C. Hey,  
M.A., West Ayton ; M. L. Thompson, Saltburn ;  
J. W. Carter, Bradford ; H. H. Corbett, Doncaster ;  
T. Stainforth, Hull ; H. C. Drake, Hull ; and  
Rosse Butterfield, Bradford.

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### CONCHOLOGICAL SECTION:

The work of this Section has been steadily and perseveringly carried on at the Union excursions, albeit the dryness of the season has been unfavourable to good results on more than one occasion. At the opening excursion, west of Brafferton, a few additions to the recorded fauna of North-West Yorkshire were made. Numerous species were collected at Hornsea, mostly round the Mere. The Section was not offi-

cially represented at Hampole, and no conchological report came to its knowledge. The excursion to Osmotherley was particularly interesting, as the district had never been previously investigated, and the woods of Ingleby Arncliffe proved a rich and interesting collecting ground. At Clapham, the chief attention was paid to the comparatively unworked area about Austwick, but the results were not equal to expectation.

In respect of Marine Mollusca, the Rev. F. H. Woods collected and noted a number of species on the only occasion on which the Union visited the coast-line.

The last-named member has lately made in the newspapers a request for assistance in bringing together material for a future list of the marine mollusca of the Yorkshire Coast. This subject the Section proposes to consider at one of its monthly meetings during the coming year.

The following Officers were elected for 1909 :—

President—W. Harrison Hutton, Leeds.

Secretaries—W. Denison Roebuck, Leeds, J. F. Musham, Lincoln ; and T. W. Saunders, Saltburn.

Representative on Executive—J. E. Crowther.

Representative on Committee of Suggestions—W. Harrison Hutton.

**Marine Biology Committee.**—The Rev. F. H. Wood writes that since the last report, not very much definite work has been done in this branch of Marine Zoology. It should, however, be noted that at the Hornsea meeting three, for this coast rare, species were found, *Dosinia (Artemis) exoleta*, *Cardium norvegicum*, *Pecten tigrinus (tigrinus)*.\* During last winter I paid visits to the museums at Cambridge, Oxford, and South Kensington (British Museum), carefully comparing specimens collected on this coast last year (1907). The result is to shew that there are several species of small shells, many of them quite common, which have never been recorded. Adding these to the list published by Mr. Hey in "The Naturalist" of 1884-5, pp. 26-31 and 129-133, and the specimens recorded by Mr. Petch in his descriptions of the marine fauna of Holderness and Humber district, published in the "Transactions of the Hull Scientific and Field Naturalists' Club," 1903, and those mentioned in Jeffrey's "British Conchology" as found on the Yorkshire Coast ; I have drawn up a provisional list, so far as I have as yet been able to ascertain. This comprises 164 species, of which 105 have been found, not necessarily for the first time, in the last two

\* In the list of species found at Hornsea, published on p. 308 (August) of "The Naturalist," *Mactra elliptica* should probably be *Mactra solida*.



years. It should, however, be added that there is naturally some uncertainty in the identification of some of the smaller species. Even museum collections are not entirely free from confusion between similar species; and none of them are entirely complete. It is extremely difficult to determine whether a given specimen is an unrecorded species of a smaller size, or a young specimen of a known species. The whole subject requires the long and patient labours of a specialist. There is also some little doubt about some of the species in Mr. Hey's list, partly owing to differences of nomenclature. He describes, for example the familiar *Chiton* found on these coasts as *marginatus*, and speaks of *cinereus* as a species only rarely obtained by dredging. But the common species is certainly what is commonly known as *cinereus*, and the list of marine mollusca published by the Conchological Society identifies the two, and gives *onyx* as the *cinereus* of Jeffreys.

The preparation for a specimen collection at the museum in Hull has begun in earnest. Specimens of sixty-eight species have been collected, but setting and arranging is necessarily a work of time. The most urgent need, at present, is to enlist workers living at or near the coast, who will make visits at different tides, and, better still, who would be prepared to do some work in dredging. After all, the washing up of shells is only the accident of marine life. It is also highly desirable that volunteers interested in the subject should make themselves acquainted with the more ordinary species of microscopic shells found in the drift, so that they may send up for identification and recording, any rarer species which they may find.

Last summer I carefully examined under a lens about a pint of drift which I picked up between Goswick and Holy Island. It proved to be extremely rich in shells. The species, but for a few additional exceptions, were found to be very much the same as I have found on this coast, the chief difference being the comparative abundance of what are with us rare species. It should, however, be remembered that the great stretches of almost flat sands are extremely favourable for the presence of these shells, and it is highly probable that very good results might be obtained from an examination after a favourable tide of the sand reaches in the north of Yorkshire.

Since writing the above I have examined some drift from Scarborough. I found 53 or more different species, among which were two specimens, adult and young, of *Rissoa proxima*, several of *Tornatina mammillata*, and one or more of the rarer species of *Philina*.

The following were elected for 1909:—

Chairman—Prof. Garstang, Leeds.

Convener—Rev. F. H. Woods, B.D., Bainton, Driffield.

Representative on Executive—Prof. Garstang.

Other Members—Rev. W. C. Hey, M.A., West Ayton; Geo. Masee, Kew; T. H. Nelson, Redcar; S. Lister Petty, Ulverston; J. Fraser Robinson, Hull; F. W. Fierke, Hull; W. Denison Roebuck, Leeds; Arnold T. Watson, Sheffield; J. D. Butterell, Wansford; E. Howarth, Sheffield; and W. Harrison Hutton, Leeds.

### BOTANICAL SECTION.

PHANEROGAMS.—The Secretaries are unable to make a very elaborate report for the past year, although the work (both "floristic" and geographical) continues to make progress. Not unimportant discoveries have even been made by members interested in the flowering plants. For example, the Bearberry (*Arctostaphylos Uva-ursi* Spreng) is found to be abundant in a south-west Yorkshire Station (*vide* C. E. Moss, Cambridge), and *Hypericum montanum* at Hessle (*leg.* C. Waterfall), is new to the East Riding, whilst *Juncus acutus*, a saltmarsh rush, has been discovered at East Coatham, by P. F. Lee, and is, according to Dr. F. A. Lees, a "significant extension" in the East Coast range of this unusual rush.

The literary side, too, has had much attention given to it, as witness the increasing number of most interesting articles on various aspects of the plant question in our increasingly interesting organ—"The Naturalist." We do not yet, even in well-worked Yorkshire, know absolutely all that is to be learned of many departments of botanical study, and long may it be before the members and associates of the Union get it into their heads that they have anything like approached a stage of finality in this respect.

The following were elected for 1909:—

President—T. W. Woodhead, Ph.D.

Secretaries—H. H. Corbett, 9 Priory Place, Doncaster; J. Fraser Robinson, 22 Harley Street, Hull.

Representative on Executive—E. Snelgrove, Sheffield.

Representative on Committee of Suggestions—S. Margerison.

**Botanical Survey Committee.**—The Convener (Dr. W. G. Smith) reports—The excursions, especially those at Leckby Carr and Osmotherley, have yielded good results. The latter week-end was attended by several members of the Committee, and

the routes were arranged so that as much as possible of the escarpments and the moorland plateau, including Black Hambleton, could be traversed. The results were most satisfactory, as the district is especially suited for showing within a short distance, the chief features of the vegetation of north-east Yorkshire. During the year the Convener and Mr. Elgee have carried the map survey of north-east Yorkshire almost to a finish, although some time must elapse before it can be published. A short account with a vegetation map on a small scale is included by Mr. Cotsworth, York, in a publication on the district.

Dr. Woodhead reports that the survey he is carrying out in Upper Wharfedale, has made good progress during the year.

A new map and memoir by Dr. C. E. Moss (Cambridge), on the vegetation of the Pennines of south-west Yorkshire and north Derbyshire is in preparation, and will be issued by the Board of Agriculture.

"The Naturalist" for 1908 contains two papers relating to Botanical Surveys:—Dr. Woodhead gave an account of "Plant Geography and Ecology in Switzerland" (May and June 1908), which will enable botanists to see how important a part these branches play in the Botany of Switzerland. Mr. Mackinder's address (March 1908), contains references which indicate the important place which geographers give to botanical surveys. Another interesting piece of work is that of Mr. S. Margerison, on "The Vegetation of some Disused Quarries," now appearing in the Bradford Scientific Journal.

In conclusion, I would like to add a personal note, expressing my regret that my removal to Edinburgh will mean a less active service to this Committee. It was in many ways a charge handed over to my care by the Y.N.U., and I may candidly admit that it has served as an important aid to my own work. Yet I trust that the botanists of the Union, especially the younger race, will feel that the botanical surveyor's point of view has added new interest to out-door observations, and to systematic botany, which is the foundation of all open-air botany.

The following were elected for 1909:—

Chairman—S. Margerison, Calverley, Leeds.  
 Convener and Representative on Executive and on Committee of Suggestions—T. W. Woodhead, Ph.D., Huddersfield;

Other Members—J. F. Robinson, Hull; C. Waterfall, Hull; W. B. Crump, Halifax; H. H. Corbett, Doncaster; J. Hartshorn, Leyburn; J. W. H. Johnson, Thornhill; W. E. L. Wattam, Huddersfield; P. F. Lee, Dewsbury; F. Elgee, Middlesbrough; H. J. Wilkinson, York; W. Jackson, Goole; Wm. G. Smith, Edinburgh; and W. Robinson, Hull,

**Yorkshire Bryological Committee.**—Mr. W. Ingham writes:—The year 1908 has proved a most successful one for Mosses and Hepatics.

Mr. C. A. CHEETHAM has been a very energetic worker during the year, and has discovered many rare and good plants. His best are the mosses:—

1. *Myurella julacea* var. *scabrifolia* on the Yoredale "Main Limestone," east of Ingleboro'. There is only one other record for the var., viz., V.C. 88 or Mid Perth.
2. *Grimmia commutata* at Ambleside in Cumberland.
3. *Rhabdoweisia denticulata* at Cautley Spout.
4. *Grimmia conferta* at Cautley Spout.
6. *Tortula subulata* var. *subinermis* by the Swale at Cundall.
5. *Barbula rubella* var. *ruberrima* at Cautley Spout.
7. *Webera elongata* on the slopes of Penyghent.
8. *Amblystegium fluviatile* at Cundall by the Swale.
9. *Hypnum sarmentosum* var. *fallaciosum* on Ingleboro'.
10. *Hylocomium rugosum* at Malham Tarn and Gordale Scar.

Mr. J. W. H. JOHNSON has found *Grimmia doniana* in Crummock Dale, Ingleboro', and *Hypnum sarmentosum* in Littondale.

Mr. ALB. WILSON has sent *Bryum duvalii* from above Cautley Spout.

Mr. J. J. MARSHALL has sent *Hypnum intermedium* (teste W. Ingham) from Newbald Springs, and the very rare Hepatic, *Blepharozia pulcherrima* on trees, Beverley Westwood.

Mr. W. INGHAM has found a great many varieties during the year, too many to mention in this short report. Those most worthy of record are as follows:—

1. HEPATICS.—*Cephaloziella bifida* c. fr. on Skipwith Common (teste S. M. Macvicar); *Scapania irrigua* and *Aplozia sphaerocarpa*, three miles from York by Malton Road.
2. SPHAGNA.—*S. parvifolium* and *S. molle* in abundance by Eller Beck, Goathland; *S. auriculatum* by Malton Road, three miles from York; *S. Girgensohnii* on the side of Black Hambleton; and many varieties of other Sphagna.



3. TRUE MOSSES.—*Hypnum Wilsoni* var. *hamatum* on Skipwith Common (teste Renauld); *Leptodontium flexifolium* on hillside descending to Wheeldale, Goathland, a large form; *Hypnum vernicosum* in Beck Dale, Helmsley, this and the same species also found by W. Ingham, by Semmerwater, adding two definite records to the solitary one in Baker's N. Yorkshire for this very rare moss; *Dicranum Bonjeani* var. *calcareum* in fruit in Stockton Forest, the fruit being exceedingly rare for this variety, and difficult to find, the fruit being apparently hitherto unknown with the var.; *Amblystegium Juratzkanum*, good and typical, on Skipwith Common, also good var. *intermedium* of *Hypnum aduncum* on the same Common; *Barbula rigidula* var. *obtusifolia* Ingh. MS. on small stone bridge near Newton-on-Ouse, another record being South Devon; and *Barbula revoluta* on wall, Kirkham Abbey, an addition to East Riding Mosses.

The Committee for 1909 was elected as follows:—

Chairman—W. Ingham, York.

Convener—C. A. Cheetham, Armley.

Representative on Executive—C. A. Cheetham, Armley.

Representative on Committee of Suggestions—W. Ingham.

Other Members—R. Barnes, Harrogate; Dr. R. Braithwaite, London; L. J. Cocks, London; W. West, Bradford; J. W. H. Johnson, Dewsbury; M. B. Slater, Malton; A. R. Sanderson, Bradford; and H. Foster, Armley,

**Mycological Committee.**—Mr. C. Crossland writes:—More attention than ever before has been given to Mycology at the several meetings during the year. One or other of the Committee have made a point of attending each excursion; at the Brafferton-Topcliffe meeting three were present. Clapham and Hampole only have been unrepresented, but at the latter meeting Mr. Malone, Bradford, and Mr. Jones, York, collected specimens of all the fungi they saw, and forwarded them to the writer. Both consignments contained uncommon species, one being a welcome confirmation of a very old record which we consider quite equal to a new find.

In the June issue of "The Naturalist," the second instalment of newly discovered fungi in Yorkshire since the publication of the Yorkshire Fungus Flora, made its appearance, and included one new to science, and twenty-four new to the county, bringing up the total to 2706. Another batch of new finds is in preparation.

Excellent results attended the Topcliffe, Hornsea, and Osmotherley excursions, particulars of which will be found in the pages of "The Naturalist." At Osmotherley, a puff-ball new to Britain (*Bovistella paludosa*) was found.

The Mulgrave Foray was the most successful ever held in this country, no fewer than 611 species being found. Of these, two, or perhaps three, are new to Britain, and about thirty new to Yorkshire. This is the third visit to that rich mycological locality.

Upon the whole, the present year may be considered to be the most profitable the Committee has hitherto experienced. On summing up the finds of the year it is ascertained that four or five are additions to the British, and forty-one to the Yorkshire Fungus Flora. In addition to the new county species, the knowledge of the distribution of fungi throughout the five vice-counties composing Yorkshire is being constantly increased, and is being regularly posted up in an interleaved copy of the Yorkshire Fungus Flora, kept for that special purpose.

The Committee decided to recommend Castle Howard as the place for next year's foray, September 18th to 23rd.

The following members form the Committee for 1909:—

Chairman—George Masee, Kew.

Convener—C. Crossland, 4 Coleridge Street, Halifax.

Representative on Executive—C. Crossland.

Other Members—Rev. Canon W. Fowler, Liversedge; Harold Wager, F.R.S., Leeds; Alfred Clarke, Huddersfield; W. N. Cheesman, Selby; Thos. Gibbs, Wirksworth; J. W. H. Johnson, Dewsbury; R. H. Philip, Hull; C. H. Broadhead, Thongsbridge; H. C. Hawley, Boston; M. Malone, Bradford; A. R. Sanderson, Bradford; and W. Robinson, Hull.

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### GEOLOGICAL SECTION.

The Secretaries, Messrs. A. J. Stather and E. Hawkesworth, write:—Interest in the work of this section has been well maintained, though some of the excursions have not been very attractive from a geological point of view. The Topcliffe meeting was very disappointing, as, on account of the Swale being in flood, the only exposure of solid rock (Lias) was inaccessible. The Hornsea meeting afforded a good opportunity for inspecting the interesting sections of glacial and post-glacial deposits exposed in the Holderness coast. The attendance at Hampole was small, the study of the Permian rocks offering little

attraction, though it is difficult to understand why this should be, as they present many features of interest and many problems for solution. The Osmotherley meeting was not as successful as it might have been, owing to the unavoidable distance of headquarters from the scene of operations. To the geologists, the meeting at Clapham was *the* meeting of the year. The attendance was large, and the fact that those present had the great privilege of the guidance of Professor T. McKenny Hughes, who has made a life study of the geology of the district, makes it almost unnecessary to record that much knowledge was gained of the Ordovician, Silurian, and Lower Carboniferous rocks, so well exposed in that area. Details of the geological observations made at the excursions have been published in "The Naturalist" for December.

The following were elected for 1909 :—

President—A. R Dwerryhouse, D.Sc., Leeds.

Secretaries—Cosmo Johns, Burngrove, Pitsmoor Road, Sheffield;  
E. Hawkesworth, Sunnyside, Crossgates, Leeds.

Representative on Executive—Godfrey Bingley.

Representative on Committee of Suggestions—Professor Kendall.

**Geological Photographs Committee.** — Mr A. J. Stather reports:—The albums of geological photographs in possession of the Union have not been circulated amongst the various associated societies so much during the past as in previous years. But where they have been exhibited they have been examined with considerable interest.

The prints that have from time to time been sent by this Committee to the collection in the possession of the British Association, have also been appreciated, and their geological value felt, as the secretary has received applications from other parts of the country for duplicate prints of some of them.

The following prints have been added to the Union's collection during the year :—

PHOTOGRAPHS IN THE SALTBURN DISTRICT, BY GODFREY BINGLEY.

|      |  |
|------|--|
| 8394 | Cat Nab, Saltburn ; Boulder Clay.  |
| 8393 | Cliffs North of Skinningrove ; Middle Lias.                              |
| 8391 | Huntcliffe, South of Saltburn ; Mushroom rocks (Lower Lias).             |
| 8390 | Shore under Huntcliffe, " " " " "  |
| 8388 | " " " " " "  |
| 8384 | " " " " " "  |
| 8383 | " " " " " "  |
| 8372 | Marske Quarry, near Saltburn, Lower Estuarine Sandstone (Fossil Plants). |
| 8380 | " " " " " "  |
| 8379 | " " " " " "  |

SERIES TAKEN IN BARTON QUARRY, N.E. OF RICHMOND,  
GODFREY BINGLEY.

- 8338 Face of Quarry looking East, Underset Limestone, Yoredale Series,  
capped with Boulder Clay  
8334 20-25 ft. Boulder Clay resting on Underset Limestone,  
Shap Granite and Whinsill Boulders in front.  
8335 " " " "  
8339 " " " "  
8343 Current bedded and faulted Underset Limestone, Yoredale Series.  
8340 Flint Nodules and Encrinites in Underset Limestone,  
vertical joints filled with Boulder Clay.  
8341 " " " "  
8342 " " " "  
8337 Striae on upper surface of Underset Limestone, Yoredale Series.  
8332 Encrinites in Underset Limestone.  
8333 " " " "

SERIES IN FORCETT QUARRY, NORTH OF RICHMOND.  
GODFREY BINGLEY.

- 8345 Face of Quarry, showing Main Limestone, Yoredale Series,  
capped with Boulder Clay.  
8344 Pre-Glacial Floor on upper surface of Main Limestone.  
8346 Pot Hole filled with Boulder Clay, Main Limestone.

SERIES IN THE NEWTON DALE DISTRICT. GODFREY BINGLEY.

- 7953 The Needle's Eye, Kelloways Rock, Newton Dale.  
7954 The Needle's Eye, " " "  
7959 The Bridestones, Calcareous Grit (Oolite).  
7960 The Bridestones, " " "  
7962 The Bridestones, " " "

SERIES IN THE NIDD VALLEY. GODFREY BINGLEY.

- 7003 Nidd Head, water emerging after a Subterranean Course of two miles.  
7000 Goydon Pot.  
7013 Troller's Gill (looking up).  
7006 Greenhow Quarry, Pateley Bridge.  
7007 Section in Greenhow Quarry.  
6991 Section, Lolley Scar Quarry, near Ramsgill.  
6993 Section, Upper Yoredale Limestone. near Lofthouse.  
6994 Cutting for Angram Reservoir.  
6995 Section, South side of Cutting for Angram Reservoir Embankment.  
6998 Bent and faulted basement beds, Yoredale Rocks,  
South side of Trench Cutting, Angram Reservoir.

The following were elected for 1909 :—

Chairman—Professor Percy F. Kendall, M.Sc., Leeds.

Convener—A. J. Stather, 224a Spring Bank, Hull.

Representative on Executive—J. H. Howarth, J.P., Halifax.

Representative on Committee of Suggestions—Godfrey Bingley,  
Leeds.

Other Members—J. J. Burton, Nunthorpe ; H. H. Corbett,  
Doncaster ; J. H. S. Dickenson, Sheffield ; E. E  
Gregory, Bingley ; and C. Bradshaw, Sheffield.



**Glacial Committee.**—The Secretaries write:—Some very interesting items are recorded by the members of the Hull Geological Society in the East Riding, which will be more fully reported later.

Messrs. C. H. Thompson and H. H. Denham have been working the Holderness drifts on the sea-coast of Aldbro'. On the beach, about half tide, they found a mass of Speeton Clay bouldered in the purple drift, measuring roughly twelve feet by seven feet, and showing the lines of bedding still intact.

It was full of *uncrushed* fossils, including *Exogyra sinuata*, *Bel. lateralis*, *Astarte senecta*, small lamellibranchs, and a large number of Ammonites. The fossils show that it belongs to the D4 Division of the Speeton Clay (Lamplugh). This locality is thirty miles south of Speeton.

At Mappleton, four miles north of Aldbro', Mr. J. W. Stather records a still larger mass of Speeton Clay, twelve yards by nine or ten yards, and containing many belemnites and ammonites.

Mr. Stather also saw large masses of a blacker clay, with crushed ammonites, etc., which he thinks is Kimeridge Clay.

Mr. T. Sheppard reports the finding of two separate pieces of black flint in the Holderness drifts,\* in each of which is embedded a Belemnite (*B. lanceolatus*). This species does not occur in the chalk of Yorkshire, though it is very commonly met with in the boulder clay and gravel; where, also, blocks of black flint are found in plenty—a material also foreign to the Yorkshire chalk. It would therefore appear that both the black flint and the Belemnite have probably been derived from an outcrop in the North Sea.

Mr. Thompson has also collected Lias ammonites in large numbers in the locality of Aldbro'. All zones of the Lias are represented except the *jamesoni* zone. The nature of the matrix of the fossils differs very much from that of our North Yorkshire specimens. A lengthy list of Liassic Cephalopoda collected from the Holderness drift is being printed by the Hull Geological Society.

There are further records from other directions, but nothing new.

The following were elected for 1909:—

Chairman—P. F. Kendall, M.Sc., Rosedene, Weetwood, Leeds.

Conveners—J. H. Howarth, J.P., Somerley, Halifax, and J. W. Stather, Newland Park, Hull.

Representative on Executive—E. Hawkesworth, Leeds.

\* See "Naturalist," Oct. 1908, p. 320.

Representative on Committee of Suggestions—E. Hawkesworth, Leeds.

Other Members — Rev. W. Lower Carter, M.A., London ; Rev. E. M. Cole, M.A., Wetwang ; H. H. Corbett, Doncaster ; W. Simpson, Settle ; F. F. Walton Hull ; H. Brantwood, Muff, Edinburgh ; J. E. Wilson, Ilkley ; H. Culpin, Doncaster ; Dr. A. R. Dwerryhouse, Headingley ; Godfrey Bingley, Leeds ; A. J. Stather, Hull ; E. E. Gregory, Bingley ; J. J. Burton, Nunthorpe.

**The Yorkshire Coast Erosion Committee.** — Mr. E. R. Matthews reports that considerable erosion hastaken place on the Holderness coast and other parts of the Yorkshire coast during the present year. On January 8th, after a strong north-westerly gale had been blowing for several days a very heavy sea occurred, the tide being exceptionally high, and not only was a great deal of damage done to the sea defences at Bridlington, Scarborough, and other places, but the erosion of the cliffs immediately to the north of Bridlington, and along the Holderness coast was very considerable. At Bridlington, an old box groyne, which had been erected about forty years previously, was entirely demolished, and another very much damaged, about thirty planks being torn off the latter, and some thirty to forty tons of chalk filling being washed out.

About the middle of August last, an exceptionally high tide with very heavy sea occurred. No serious damage was done, but the erosion on the Holderness coast received a great impetus. For several days previously, on this occasion also, a strong north-westerly gale had been blowing. Early in the present year I had a notice board fixed well up in the cliffs on the south side of Bridlington. I found, on inspecting this part of the coast recently, that the cliffs where I had fixed the board had been eroded to such an extent that the notice board had washed away, and was lying at the foot of the cliff near by.

The Committee for 1909 were elected as follows:—

Chairman—F. F. Walton, Hull.

Convener—E. R. Matthews, Bridlington.

Representative on Executive—F. F. Walton, Hull.

Representative on Committee of Suggestions—E. R. Matthews, Bridlington.

Other Members—J. T. Sewell, Whitby ; J. W. Stather, Hull ; W. Y. Veitch, Middlesbrough ; J. J. Burton, Nunthorpe, Rev. E. M. Cole, Wetwang.

**Report on the Work of the Carboniferous Flora and Fauna Committee** :—Considerable progress has been made during the year, in the work for which the Committee has been appointed. Owing to the numerous sinkings and borings now being made near Doncaster, Mr. Culpin has been able to continue his valuable investigations, and the vertical distribution of a marine fauna in the coal measures is now known so well, that the relation of the principal marine bands to the Barnsley coal seam can be used in any exploration work that may be undertaken in the unproved portion of the coalfield. The Committee have pleasure in recording their obligation to the many mining engineers and coal owners, who have not only taken an interest in the work, but have given much assistance. It is hoped that there will be opportunities in the near future to determine the position of the marine bands below the Barnsley seam. The Millstone Grit series is being investigated by several workers, and, though the difficulties are great, sound progress is being made. The Lower Carboniferous Rocks between, and North of, the Craven Faults, have now been zoned, and the broad lines of the faunal distribution determined. The sequence described by Dr. Vaughan in the Avon Section, and afterwards confirmed in South Wales, has been found to hold good in N.W. Yorks. A small faulted mass of Tournasian age occurs near Sedbergh, and this represents the oldest Carboniferous Rocks known to occur in Yorkshire. They are much lower in the sequence than the calcareous conglomerate at the base of the Great Scar Limestone of Ingletondale. They rest on a great thickness of Red Conglomerate, which was considered by the Survey Officers to be "Basement Carboniferous," though coloured red on the geological maps. This correlation has not been confirmed by the writer, who, from the absence of fossils in, and the very different lithological character of, this striking conglomerate with its ferruginous matrix and dull red colour, has felt it necessary to exclude it from the Carboniferous system. It is very probable that the conclusions of the older geologists that it represented some stage of the Old Red Sandstone, is more correct, and this seems to be the opinion of Professor MacKenny Hughes. It is hoped that the results of the work on the Lower Carboniferous Rocks will be communicated early next year. C. J.

Dr. Kidston writes:—"I have been unable to complete another Report. I have the material for one, and will endeavour to have it for our next Annual Meeting: Much valuable material has been slowly passing through my hands from Yorkshire, which will include, I think, several additions to the Yorkshire Coal Flora."

The following were elected for 1909 :—

Chairman—R. Kidston, LL.D., F.R.S., Stirling, N.B.

Convener—Cosmo Johns, Sheffield.

Representative on Executive Committee—Dr. A. R. Dwerryhouse, Headingley.

Representative on Committee of Suggestions—Cosmo Johns, Sheffield.

Other Members—W. West, Bradford ; C. Bradshaw, Sheffield ; P. F. Kendall, Leeds ; S. Nettleton, Ossett ; E. E. Gregory, Bingley ; Wheelton Hind, Stoke-on-Trent ; Walcot Gibson, London ; E. Hawkesworth, Leeds ; Miss Johnstone, Bradford ; H. Culpin, Doncaster ; and John Holmes, Crosshills.

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### OTHER COMMITTEES.

**Committee for Suggestions.**—The Convener reports—The Thorne Waste Survey was organised, and several workers were prepared to start. The owners and tenants of the Waste were approached for permission. They, however, sent a representative to explain to Mr. Corbett that for reasons given, they could not sanction the proposed survey. A survey of Austwick Moss, Clapham, on the same lines has since been proposed, and it is hoped it can be carried out.

An investigation was made in February of tree remains in peat on Stanbury and adjoining moors. The results were satisfactory, and were briefly described in the Bradford press. Although the whole of the material is not yet examined, it is quite certain that remains of coniferous trees, probably Scots Pine, occur in the peat at three stations in this district, varying from 1100 to 1400 feet altitude.

The Committee for 1909 is as follows :—

Chairman—P. F. Kendall, M.Sc., Chapel Allerton, Leeds ;

Convener—Wm. G. Smith, B.Sc., Ph.D., Edinburgh.

Representative on Executive—Professor P. F. Kendall.

Representatives of Committees and Sections—J. W. Carter, Bradford ; E. R. Matthews, Bridlington ; W. Hewett, York ; J. W. Taylor, Leeds ; Cosmo Johns, Sheffield ; W. West, Bradford ; W. Ingham, York ; E. Hawkesworth, Leeds ; Godfrey Bingley, Leeds ; A. Whitaker, Barnsley, T. W. Woodhead Ph. D., Huddersfield ; S. Margerison, Leeds ; W. H. Parkin, Bradford ; and W. Wilson, Skipton.



**The Yorkshire Micro-Zoology and Micro-Botany Committee.—**

The Committee for 1909 is as follows:—

Chairman—M. H. Stiles, 2 Frenchgate, Doncaster.

Convener—H. Moore, Rotherham.

Representative on Executive—H. Moore, Rotherham.

Representative on Committee of Suggestions—W. West, Bradford.

Other Members—J. N. Coombe, Sheffield, Prof. A. Denny, Sheffield, F. W. Mills, Huddersfield, and T. Howard, Bradford.

**Soppitt Memorial Library.**—Twenty-seven volumes and papers have been circulated during the year, but no additions have been made. The original intention to keep a set of the Union's publications in the library has, unfortunately, not yet been accomplished, but arrangements have been made for this to be done.

**British Association.**—Mr. Sheppard was appointed delegate to represent the Union at the Conference of delegates from the corresponding societies held in connection with the meeting of the British Association at Dublin in September. The President of the Conference, Professor H. A. Miers, delivered an address entitled, "The Educational Opportunities of Local Scientific Societies," in which he paid a special tribute to the excellence of the suggestions made in Mr. G. W. Lamplugh's Presidential Address to the Yorkshire Naturalists' Union "On the Necessity of the Amateur Spirit in Scientific Work," which appeared in "The Naturalist" for 1906. Other subjects discussed were—"Detailed Natural History Surveys of Restricted Areas," an important work, suitable for local societies, introduced by Professor G. H. Carpenter, Dublin; "The Advisableness of Restocking Haunts whence Fauna and Flora have disappeared," by H. Davey, Esq., Brighton; and "Permanent Records of Natural History or other Observations, by means of the Card Catalogue System," by F. A. Bellamy, Esq., Oxford.

**The "Naturalist"**—Mr. R. Fortune, F.Z.S., has been added to the list of Referees.

As the list of papers given above shows, this journal has been the medium of publishing a number of papers and notes directly resulting from the Union's work, and the Editors are to be congratulated on the maintenance of the high standard to which it has for many years attained. The journal is the recognised medium for publication of matter relating to the eleven most

northern counties, and, although the Editors are anxious not to take too narrow a view of their duties, it is hoped that our members and others resident in the area to which its operations have, in the main, been restricted, will continue to keep the Editors well supplied with good local matter.

**The Presidency of 1909** has been offered to and accepted by Mr. W. H. St. Quintin, J.P., of Scampston, Yorks.

The Union wishes to record its indebtedness to its retiring President, Dr. Wheelton Hind, F.G.S., for his services during the year.

Other Officers.—In addition to the President, Divisional Secretaries, Local Treasurers, etc., already referred to, the following officers of the Union were elected for 1909 :—

Hon. Treasurer—Mr. H. Culpin, Doncaster.

Hon. Secretary—Mr. T. Sheppard, Hull.

Delegate to the British Association—Mr. T. Sheppard.

Auditors—Messrs. J. W. Stather, Hull, and J. F. Robinson, Hull.

### **The Financial Position of the Union**

The following are the Hon. Treasurer's statements of Receipts and Payments during the twelve months ending November 30th, 1907 and 1908 respectively :—



# YORKSHIRE NATURALISTS' UNION.

## INCOME AND EXPENDITURE STATEMENT, 12 months to Nov. 30, 1908.

| INCOME.                          |     |    |     |    |    | EXPENDITURE.   |     |    |    |    |           |
|----------------------------------|-----|----|-----|----|----|--|-----|----|----|----|-----------|
|                                  |     |    | £   | s. | d. |  |     |    | £  | s. | d.        |
| Members' Annual Subscriptions    | ..  |    | 127 | 10 | 6  | Expenses of Meetings                                   | ..  |    | 11 | 9  | 10        |
| Levies from Associated Societies | ..  |    | 15  | 3  | 8  | Printing and Stationery                                | ..  |    | 21 | 7  | 6         |
| Sales of Publications—           |     |    |     |    |    | Postages, Telegrams, etc. (Hon. Secretary's Account)   | ..  |    | 30 | 0  | 0½        |
| Baker's North                    |     |    |     |    |    | Clerkage (Hon. Secretary's Account)                    | ..  |    | 32 | 6  | 6         |
| Yorkshire                        | ..  | 13 | 9   |    |    | Rent, etc., of Room, Hull                              | ..  |    | 7  | 10 | 0         |
| Transactions                     | ..  | 2  | 16  | 7  |    | Hire of Room, Leeds                                    | ..  |    | 0  | 15 | 0         |
|                                  |     |    |     |    |    | Wreath for Dr. Sorby's Funeral                         | ..  |    | 1  | 1  | 0         |
| Sundries                         | ..  |    | 4   | 10 | 4  | Cost of Publications—                                  |     |    |    |    |           |
| "Naturalist"                     | ..  |    | 0   | 5  | 1  | Annual Report  | ..  |    | 9  | 9  | 0         |
| Subscriptions                    | 102 | 2  | 6   |    |    | Sundries   | ..  |    | 0  | 11 | 6         |
| Sales, etc.                      | ..  | 0  | 13  | 10 |    | "Naturalist"   |     |    |    |    |           |
| Recognition fee                  | ..  | 5  | 0   | 0  |    | Subscribers  | 104 | 7  | 6  |    |           |
|                                  |     |    |     |    |    | Life Members' Copies                                   | ..  | 7  | 15 | 0  |           |
|                                  |     |    |     |    |    | Exchanges  | ..  | 2  | 0  | 0  |           |
|                                  |     |    |     |    |    | Extra cost and extra postage of special numbers        | ..  | 16 | 11 | 0  |           |
|                                  |     |    |     |    |    | Odd numbers and sundries                               | ..  | 2  | 2  | 1  |           |
|                                  |     |    |     |    |    |  |     |    |    |    | 132 15 7  |
|                                  |     |    |     |    |    | Balance, being income of year in excess of expenditure | ..  |    | 7  | 19 | 11½       |
|                                  |     |    |     |    |    |  |     |    |    |    | £255 5 11 |
|                                  |     |    |     |    |    |  |     |    |    |    | £255 5 11 |

## BALANCE SHEET, November 30, 1908.

| LIABILITIES.                      |     |    |    | ASSETS. |   |    |     |    |           |
|-----------------------------------|-----|----|----|---------|---|----|-----|----|-----------|
|                                   |     | £  | s. | d.      |   |    | £   | s. | d.        |
| Accounts due from Union—          |     |    |    |         | Cash at Bank  | .. | 116 | 19 | 3         |
| Naturalist "                      | 260 | 9  | 2  |         | Cash with Hon. Secretary  | .. | 50  | 9  | 6½        |
| Printing and Stationery           | ..  | 2  | 18 | 6       |   |    |     |    | 167 8 9½  |
| Rent, etc. of Room, Hull          | ..  | 2  | 5  | 0       | Accounts due to Union—  |    |     |    |           |
| Hire of Room at Leeds             | ..  | 0  | 15 | 0       | Sales of Exchanges  | .. |     |    | 5 0 0     |
| Sundry Liabilities                | ..  | 6  | 10 | 1       | Subscriptions in Arrears—                                       |    |     |    |           |
|                                   |     |    |    |         | Prior to 1908   | 10 | 9   | 3  |           |
| Annual Reports (four years)       | ..  | 33 | 9  | 0       | For 1908  | 48 | 18  | 6  |           |
| Life Members' Account             | ..  | 7  | 7  | 0       | Less unrealisable amounts written off                           | .. | 11  | 8  | 6         |
| Subscriptions received in advance | ..  | 0  | 10 | 6       |   |    | 37  | 10 | 0         |
|                                   |     |    |    |         |   |    |     |    | 47 19 3   |
|                                   |     |    |    |         | Balance, being excess of Liabilities over Assets, Dec. 1st 1907 | .. | 121 | 16 | 2         |
|                                   |     |    |    |         | Less income in excess of expenditure, 1908                      | .. | 7   | 19 | 11½       |
|                                   |     |    |    |         |   |    |     |    | 113 16 2½ |
|                                   |     |    |    |         |   |    |     |    | £334 4 3  |
|                                   |     |    |    |         |   |    |     |    | £334 4 3  |

NOTE.—The Union has a stock of publications not included above, which the Hon. Secretary values at not less than £50.

H. CULPIN, *Hon. Treasurer.*

Audited and found correct,

April 21st, 1909.

J. FRASER ROBINSON:  
JNO. W. STATHER.



## LIST OF MEMBERS.

CORRECTED TO DECEMBER 1908.

The Members whose names are printed in heavy type are **Permanent Members of the General Committee**. The dates preceding names are those of election; Original Members, being those elected previous to 1883 are marked —; those to whom **L.** is prefixed are Life Members, by virtue of a donation of not less than seven guineas; and those to whom **H.L.** is prefixed are Honorary Life Members.

Members changing their addresses are requested to inform the Secretary as soon as possible.

- 1905 .. Ackroyd, J., 39 King Street, Heckmondwike.  
 1890 **L.** Airedale, Lord, Gleadhow Hall, Leeds.  
 1896 **L.** **Anderson, Tempest**, M.D., D.Sc., 17 Stonegate, York.  
 1909 .. Armstrong, A.L., 12 Dragon Avenue, Harrogate.  
 1903 .. Arnott, Joseph, Bay House, Headingley, Leeds.  
 1894 .. **Ash, Rev. C. D.**, M.A., Saxton Vicarage, Tadcaster.  
 1895 .. Ashton, J. T., M.B., Kingthorpe House, Pickering.  
 1896 .. Ashton, Mrs. J. T., Kingthorpe House, Pickering.  
 1907 .. Atkinson, J., Glen Esk, Alma Road, Headingley, Leeds.  
 1897 .. **Audas, Thos.**, L.D.S., 46 Anlaby Road, Hull.  
 1883 .. Backhouse, J., F.Z.S., M.B.O.U., Victoria Avenue, Harrogate.  
 1895 .. **Bairstow, Uriah**, 48 Heath Crescent, Halifax.  
 1883 **H.L.** **Baker, J. G.**, F.R.S., 3 Cumberland Road, Kew, Surrey (Ex-Pres.).  
 1896 .. Banks, Ernest, Cross Keys Inn, Adlingfleet, Goole.  
 1893 .. **Barker, R. H.**, Grosvenor Bank, Scarborough  
 1888 .. **Barnes, Richard**, Mayfield Grove, Franklin Road, Harrogate.  
 1897 .. Barraclough, William, Rothesay Villa, Victoria Street, Barnsley.  
 1908 .. Barry, J. W., J.P., Fyling Hall, Robin Hood's Bay.  
 1889 .. **Bayford, E. G.**, F.E.S., 2 Rockingham Street, Barnsley.  
 1893 .. Bean, Eugene, Hinderwell House, Falsgrave Road, Scarbro'.  
 — .. **Bedford, J. E.**, F.G.S., Arncliffe, Shireoaks Road, Headingley, Leeds.  
 1907 .. Bellerby, W., 8 Burton-Stone Lane, York.  
 1884 .. **Bennett, S. H.**, Mountenoy Road, Rotherham.  
 1900 .. Benney, A. E., 3 Ambler Street, Manningham, Bradford.  
 1905 .. Benson, G., Nunthorpe Avenue, York.  
 1904 .. Bentinck, Rt. Hon. Lord, M.P., Underley Hall, Kirkby Lonsdale.  
 1907 .. Berry, R., C.M.E. Office, L. & Y. Ry., Horwick, near Bolton.  
 1907 .. Bevan, D. W., 32 Nansen Street, Scarborough.  
 1885 .. **Bingley, Godfrey**, Thorniehurst, Shaw Lane, Headingley, Leeds.  
 — .. **Birks, Thomas**, 2 Musters Road, West Bridgford, Nottingham.  
 1903 .. Bisat, G. B., 30 Nether Hall Road, Doncaster.  
 1903 .. Blackburn, Rev., E. P., 7 Brook Street, Gloucester.  
 1908 .. Blackman, V. H., M.A., F.L.S., University, Leeds.  
 1908 .. Bolton, J. H., 3 Leamington Avenue, Halifax.  
 1905 **L.** **Booth, H. B.**, M.B.O.U., Rhyhill, Ben Rhydding, Yorks.  
 — .. **Bould, C. H.**, 4 Welton Place, Hyde Park, Leeds.  
 1907 .. Bowman, Rev. J.W., M.A., B.D., The Manse, Hudson Street, Whitby.  
 1907 .. Bown, P., North Park Road, Harrogate.  
 — .. **Boyes, F.**, Beverley.  
 1894 .. Bradford Public Free Library, c/o Butler Wood, Librarian, Bradford

- 1904 .. Bradshaw, C., F.C.S., Museum, Weston Park, Sheffield.  
 1904 .. Brady, S. L., Park Hurst, Endcliffe Croft, Sheffield.  
 1895 .. **Braithwaite, R.**, M.D., 26 Endymion Road, Brixton Hill, London, S.W. (Ex-President).  
 1885 .. **Branson, F. W.**, F.I.C., 13 Briggate, Leeds.  
 1904 .. Brierley, A. H., Galtres Edge, Stockton Lane, York.  
 — .. Brigg, John, M.P., F.G.S., Kildwick Hall, Keighley.  
 1884 .. **Brittain, F.**, J.P., Melbourne Avenue, Sheffield.  
 1892 .. Brittain, W. H., J.P., Storth Oaks, Ranmoor, Sheffield.  
 1900 .. **Broadhead, C. H.**, Wooldale, Thongsbridge, Huddersfield.  
 1885 .. Brooke, J. A., M.A., J.P., Fenay Hall, Huddersfield.  
 1903 .. Brown, Alderman J., Savile Street, Hull.  
 1907 .. Brown, J. A., Thornhill Street, Calverley, Leeds.  
 1904 **L.** Brown, J. B., Stalheim, Hebden Bridge.  
 1886 .. **Brownridge, Charles**, F.G.S., 26 North Road, Devonshire Park, Birkenhead.  
 1890 .. Buchanan, Mrs., Sowerby, Thirsk.  
 — .. **Bunker, Thomas**, 9 East Parade, Goole.  
 1891 .. **Burton, J. J.**, Rosecroft, Nunthorpe, R.S.O., Yorkshire.  
 1907 .. Burt, A. H., D.Sc., 4 South View, Holgate, York.  
 — .. **Butterell, J. D.**, The Manor House, Wansford, Hull.  
 — .. Butterfield, J. E., B.Sc., Comril, Eglinton Hill, Plumstead, London, E.C.  
 1890 **L.** Carlisle, Rt. Hon. Earl of, Castle Howard, York.  
 1895 .. **Carlton, J.**, 48 Albany Street, Hull.  
 1891 **L.** Carpenter, Hon. Mrs. B., Kiplin, Northallerton.  
 1907 .. Carr, Henry, 18 Granville Street, Skipton.  
 1903 .. **Carr, Prof. J. W.**, M.A., F.L.S., University College, Nottingham.  
 — .. **Carter, J. W.**, F.E.S., 28 Mannheim Road, Manningham, Bradford.  
 1890 .. **Carter, Rev. W. Lower**, M.A., F.G.S., 30 Hartington Road, West Ealing, London.  
 1887 .. **Cash, William**, F.G.S., 26 Mayfield Terrace, Halifax.  
 1904 .. Castle, Thomas, Orchard Villa, Heckmondwike.  
 1905 .. Catterall, W. H., Rokeby School, Barnard Castle.  
 1891 **L.** Champney, J. E., J.P., 27 Hans Place, London, S.W.  
 — **L.** **Cheeseman, W. N.**, J.P., F.L.S., The Crescent, Selby.  
 1905 .. **Cheetham, C. A.**, Glenmoor, Upper Armley, Leeds.  
 1898 .. **Chorley, Mrs. Harry**, F.E.S., Woodhead, Burley-in-Wharfedale.  
 — .. **Clark, J. E.**, B.A., B.Sc., Asgarth, Riddlesdown Road, Purley, Surrey  
 1892 .. **Clarke, Alfred**, 9 St. Andrew's Road, Huddersfield.  
 — .. Clarke, W. Eagle, F.L.S., 35 Braid Road, Edinburgh (Ex-Pres).  
 1892 **L.** Clarke, W. J., 44 Huntriss Row, Scarborough.  
 1907 .. Clayton, John, Greendale, Leeds Road, Harrogate.  
 1894 .. Clayton, John, Lidgett Avenue, Wharcliffe Silkstone, Barnsley.  
 1906 .. Clough, Sam, Steeton Hall, near Keighley.  
 1896 .. **Cocks, L. J.**, Holly Lodge, Esher, Surrey.  
 1903 .. Cole, T. S., Endcliffe Crescent, Sheffield.  
 — .. **Cole, Rev. E. Maule**, M.A., F.G.S., Wetwang Vicarage, York.  
 1908 .. Collier, Rev. C. V., M.A., F.S.A., The Parsonage, East Harlsey, Northallerton.  
 1891 **L.** Cooke, J. S., J.P., F.R.A.S., Ploverfield, Ben Rhydding, Yorks.  
 1893 .. **Coombe, J. N.**, Abbeydale House, Beauchief, Sheffield.  
 1890 .. **Corbett, H. H.**, M.R.C.S., 9 Priory Place, Doncaster.  
 — .. Cordeaux, Mrs., Great Cotes, R.S.O., Lincoln.  
 1908 .. Cowling, H., 10 Bradley Road, Silsden, near Keighley.  
 1907 .. Cozens, E. J., Preston Grammar School, Stokesley.  
 1896 .. **Crabtree, Arthur**, F.L.S., Merlewood, Halifax.  
 1903 .. Croft, E. O., M.D., 28 Hyde Terrace, Leeds.

- 1887 .. **Crossland, Charles**, F.L.S., 4 Coleridge Street, Halifax (Ex-President).
- 1896 . **Crowther, J. E.**, Port and Street, Elland.
- 1908 .. Crozel, Professor Georges, Collonges sur Saône, Rhone, France.
- 1894 .. **Crump, W. B.**, M.A., 4 Marlborough Avenue, Halifax.
- 1903 .. **Culpin, H.**, 7 St. Mary's Road, Doncaster.
- 1885 **H.L. Dallinger, Rev. W. H.**, LL.D., Ingleside, Newstead Road, Lee, London, S.E. (Ex-President).
- 1908 .. Dalton, A. C., Ashleigh Villa, Crosley, Scunthorpe.
- 1898 .. Darley, Rev. Bertram, Harthill Rectory, Sheffield.
- 1896 **H.L. Dawkins, Prof. W. B.**, M.A., F.R.S., Owens College, Manchester (Ex-President).
- 1908 .. Dawson, J. T., Ashgarth, Skipton-in-Craven.
- 1883 .. Dawson, Percival W., Etherington House, Newland, Hull.
- 1908 .. Dean, A., Longsight Terrace, Brougham Road, Marsden, near Huddersfield.
- 1906 .. Denison, Abnar, 13 George Street, Milnsbridge.
- 1894 .. Dennis, Thomas, 21 Peel Street, Hull.
- 1885 .. **Denny, Prof. Alfred**, F.L.S., 61 Ranmoor Crescent, Sheffield.
- 1903 **L. Dent, Major J. W.**, Ribston Hall, Wetherby.
- 1899 .. Dewhurst, Algernon, Aireville, Skipton.
- 1907 .. Dickenson, J. H. S., 25 Fir Street, Walkley, Sheffield.
- 1908 .. Dixon, Dr. A. C., 12 Kendrew Street, Darlington.
- 1907 .. Dodson, H., Huntcliff House, Saltburn.
- 1904 .. Dowse, Capt. T. D., 8 Arlington Street, Hull.
- 1907 .. Drake, H. C., F.G.S., 6 Lee Street, Holderness Road, Hull.
- 1889 **H.L. Dresser, H. E.**, F.L.S., 110 Cannon Street, London, E.C. (Ex-President).
- .. Duncan, S., 44 De la Pole Avenue, Anlaby Road, Hull.
- 1906 .. **Dwerryhouse, A. R.**, D.Sc., F.G.S., 10 Ashwood Villas, Headingley, Leeds.
- 1905 .. Eddrup, Rev. T. B., M.A., Horbury Vicarage, Wakefield.
- .. **Eddy, J. R.**, F.G.S., The Grange, Carleton, Skipton.
- 1898 .. Eden, Hon. Miss Agnes, Ford House, Wangford, Suffolk.
- 1901 .. Edmondson, Prof. T. W., M.A., New York University, University Heights, New York, U.S.A.
- 1904 .. Edwards, Rev. J. R. W., M.A., The Grammar School, Leeds.
- 1905 .. **Elgee, F.**, 23 Kensington Road, Middlesborough.
- 1893 .. Elmhirst, C. E., 29 Mount Vale, York.
- 1897 .. Emerson, E. B., M.A., J.P., Swainby, Northallerton, Yorks.
- 1908 .. Fielding, W., 24 Ventnor Terrace, Halifax.
- 1892 .. **Fierke, F. W.**, 171 Alliance Avenue, Hull.
- 1888 .. Fitzwilliam, Hon. W. H. W., M.P., Wiggantherpe, York.
- 1894 .. Foggitt, J. B., 32 Scarisbrick New Road, Southport.
- 1897 .. Foggitt, T. J., Market Place, Thirsk.
- .. **Foggitt, William**, J.P., South Villa, Thirsk.
- 1905 .. Fordham, W. J., M.R.C.S., Tatfield, Washington, S.O., Durham.
- 1909 .. Forrest, H. E., "Hill Side," Bayston Hill, Shrewsbury.
- 1887 .. **Fortune, Riley**, F.Z.S., Penrhyn House, Haywra Street, Harrogate.
- 1896 .. Foster, G., Castlestead, Boston Spa, R.S.O., Yorkshire.
- 1908 .. Foster, H., 6 Highborne Street, Armley, Leeds.
- .. **Fowler, Rev. Canon William**, M.A., Vicarage, Liversedge, Normanton. (Ex-President).
- 1908 .. Fowler, T. Marchant, Crookleigh, Derby Street, Barnsley.
- 1833 **L. Gallwey, Sir Ralph P.**, Bt., M.B.O.U., Thirskleby Park, Thirsk (Ex-President).
- 1885 .. **Gardner, John**, F.L.S., Laurel Lodge, West Hartlepool.
- 1908 .. Garstang, Prof. W., M.A., F.Z.S., University, Leeds.

- 1883 .. **Gaunt, Leonard**, Hazelbrae, Farsley, Leeds.  
 1886 .. Gaunt, Mrs. Leonard, Hazelbrae, Farsley, Leeds.  
 1887 .. **Gerrard, J.**, M.B.O.U., H.M. Inspector of Mines, Worsley, Manchester.  
 1898 .. **Gibbs, Thomas**, Bridge House, Wirksworth.  
 1904 .. Gibson, J., F.R.M.S., Elmfield, 192 Salter Lane, Sheffield.  
 1907 .. Gibson, Walcot, B.Sc., F.G.S., Geological Survey Office, 28 Jermyn Street, London, S.W.  
 — .. Glavert, Ludwig, Geol. Survey Office, Beaufort Street, Perth, W. Australia.  
 1907 .. Goldthorpe, B., 35 Whiteley Bottom, Milnsbridge.  
 1905 .. Gollidge, G. W., Rose Cottage, Hexthorpe, Doncaster.  
 1908 .. Gott, Emmott, 143 Park Row, Eaton, Bradford.  
 1883 .. Gough, Rev. Thomas, B.Sc., F.G.S., King Edward VI. School, East Retford.  
 1907 .. Grabham, Oxley, M.A., Museum, York.  
 1908 .. Grant, C. H., M.Sc., F.R.Met.S., 212 Burley Road, Leeds.  
 1908 .. Greaves, A. E., 52 Cecil Street, Goole.  
 1894 .. Green, Upfield, F.G.S., 8 Bramskill Road, Harlesden, London, N.W.  
 1907 .. Gregory, E. E., Thornfield Cottage, Bingley, Yorks.  
 — .. **Gregson, W.**, F.G.S., 106 Victoria Road, Darlington.  
 1907 .. Grimshaw, P. H., Royal Scottish Museum, Edinburgh.  
 1908 .. Haigh, Chas., 32 Park Field Avenue, West Bowling, Bradford.  
 1887 .. Haigh, G. H. Caton, M.B.O.U., Grainsby Hall, Great Grimsby.  
 1902 .. Haley, W. B., 33 South Parade, Cleckheaton.  
 1889 **L. Hall, A. E.**, F.E.S., Cranfield House, Southwell, Notts.  
 1890 .. Hallimond, H. T., Percy Cottage, Emerald Street, Saltburn-by-Sea  
 1887 .. **Handley, John**, J.P., Havera Bank, Sedbergh, R.S.O., Yorkshire  
 1909 .. Hargreaves, J. A., 3 Ramshell Road, Scarborough.  
 — .. **Harker, Alfred**, M.A., F.R.S., St. John's College, Cambridge.  
 1908 .. Harrogate Public Library, c/o G. W. Byers, Harrogate.  
 1897 .. Hartshorn, J., Leyburn, R.S.O., Yorkshire.  
 1885 .. Harvie-Brown, J. A., F.R.S.E., Dunipace House, Larbert, N.B.  
 1891 .. **Hawkesworth, Edwin**, Sunnyside, Crossgates, Leeds.  
 1907 .. Hawley, H. C., Tumby Lawn, Boston, Lincs.  
 — .. Harrison, John, 7 Broomfield Terrace, Bagdale, Whitby.  
 1908 .. Haxby, Fred, 11 Necropolis Road, Bradford.  
 1897 .. **Herdman, W.**, F.G.S., St. John's Chapel, Co. Durham.  
 — .. **Hewett, William**, 12 Howard Street, Fulford Road, York.  
 — **H.L. Hey, Rev. W. C.**, M.A., Derwent House, West Ayton, York.  
 1907 .. Hind, Wheelton, M.D., B.Sc., Roxeth House, Stoke-on-Trent.  
 (Past President).  
 1898 .. Hinton, Amos, Hilda House, Middlesborough.  
 1907 .. Hodges, Isaac, M.I.M.E., F.G.S., Eshald House, Woolesford nr. Leeds.  
 1889 .. Hodsmen, G., 8 Feversham Terrace, York.  
 — **L. Holgate, Benj.**, F.G.S., The Briars, North Park Avenue, Roundhay, Leeds.  
 1902 .. Holland, J. H., F.L.S., 11 Marlborough Road, Gunnersbury, London, W.  
 1895 .. Hollingworth, J., M.R.C.S., 2 Hornsea Parade, Holderness Road, Hull.  
 1908 .. Holmes, John, 9 Campbell Street, Crosshills, near Keighley.  
 1883 .. Hopkinson, J., F.L.S., Weetwood, Watford, Herts.  
 1884 .. **Horne, William**, F.G.S., Market Place, Leyburn, R.S.O., Yorks.  
 1909 .. Howard, G., Sitwell Vale, Moorgate, Rotherham.  
 1906 .. Howard, Thos., Oakroyd, Manningham, Bradford.



- 1889 .. **Howarth, E.**, F.Z.S., Hilbre Nest, Crookes Moor Road, Sheffield.  
 1891 .. **Howarth, J. H.**, J.P., F.G.S., Somerley, Rawson Avenue, Halifax.  
 — .. Hoyle, W. E., Dr., M.A., Museum, University, Manchester.  
 1884 .. **Hudleston, W. H.**, M.A., F.R.S., 8 Stanhope Gardens, London, S.W.  
 1907 .. Hudson, Baker, Memorial Museum, Middlesborough.  
 1907 .. Humphreys, W., C.A., Hill Crest, Bramhall Lane, Bramhall, Stockport.  
 1902 .. Hunter, John, 17 Hollins Road, Harrogate.  
 1883 .. Hurst, J. S., J.P., Copt Hewick Hall, Ripon.  
 1904 .. **Hutton, W. Harrison**, 44-46 Dial Street, Leeds.  
 1907 .. Ibbotson, W., 144 Burngreave Road, Sheffield.  
 1896 .. **Ingham, William**, B.A., 52 Haxby Road, York.  
 1885 .. Irvin, Rev. B., M.A., The Vicarage, Saltburn-by-the-Sea.  
 1904 .. Irving, J., M.D., Inagh Mount, 13 Filey Road, Scarborough.  
 1890 .. Jackson, A. M., LL.D., Victoria Chambers, Hull.  
 1907 .. Jackson, E. W., c/o Messrs. Pattinson & Stead, 11 Queen's Terrace, Middlesborough.  
 — .. **Jackson, J.**, M.P.S., High Street, Wetherby.  
 1907 .. Jackson, W., 6 Edgar Terrace, Hook, near Goole.  
 1907 .. John Crerar Library, c/o H. Grevel & Co., 33 King Street, Covent Garden, W.C.  
 1904 .. **Johns, C.**, F.G.S., Burngrove, Pitsmoor Road, Sheffield.  
 1904 .. Johnson, J. W. H., B.Sc., York House, Thornhill, Dewsbury.  
 1907 .. **Johnstone**, Miss M.A., LL.A., B.Sc., F.L.S., 15 Stratford Road, Horton Grange, Bradford.  
 1899 .. **Jones, J. A.**, B.Sc., F.G.S., Reethville, Park Road, West Hartlepool  
 1903 .. **Jones, R. Fowler**, 8 Lendal, York.  
 1903 .. Jordan, A., Claremont, Windsor Road, Doncaster.  
 1905 .. **Jowett, F.**, Vincent Street, Bradford.  
 1892 .. **Kendall, Percy F.**, M.Sc., F.G.S., Rose Dene, Weetwood, Leeds. (Ex-President).  
 1907 .. Kendall, P. F., Jr., Rose Dene, Weetwood, Leeds.  
 1908 .. Kershaw, J. R., F.R.H.S., 10 Briggate, Brighouse.  
 1888 .. **Kidston, Robert**, LL.D., F.R.S., 12 Clarendon Place, Stirling.  
 — **L. Knubley**, Rev. **E. P.**, M.A., Steeple Ashton Rectory, Trowbridge, Wilts.  
 1906 **H.L.** Lamplugh, G. W., F.R.S., F.G.S., Geological Survey Office, 28 Jermyn Street, London, S.W. (Ex-President).  
 1904 .. Lane, A. C., Fern Cottage, Rastrick, Brighouse.  
 1908 .. Laverack, Clive, Ph.D., Broughton Rise, Malton.  
 1902 .. **Lawton, Fred**, Carlton Terrace, Lane End, Skelmanthorpe, Huddersfield.  
 1893 .. **Leatham, Claude**, The Red House, Wentbridge, Pontefract.  
 1898 .. **Lee, John**, Hude Gate, Middleton-in-Teesdale, Darlington.  
 — .. **Lee, P. Fox**, Lowood, Dewsbury,  
 1907 .. Leeds Public Library, c/o T. W. Hand, Public Library, Leeds.  
 1896 .. Leetham, E., J.P., Aldersyde, Dringhouses, York.  
 1889 .. **Lofthouse, J. H.**, Lyell House, 62 Dragon Parade, Harrogate.  
 1899 .. **Lofthouse, T. A.**, F.E.S., 129 Albert Road, Middlesborough.  
 1898 .. Lucas, B. R., 3 Dyer Terrace, Winnington, Northwich, Cheshire.  
 1907 .. Lumby, H. Haigh, 121 Horton Grange Road, Bradford.  
 — .. Lund, Edgar, c/o Messrs. Thos. Drummond & Sons, Ltd., Lumb Lane, Bradford.  
 1884 .. **Lund, Percy**, 57 Southfield Square, Bradford.  
 1904 .. Lupton, F., Bond End, Knaresborough.  
 — .. Lupton, Henry, F.E.S., Devonian, Torquay.  
 1909 .. McDonald, James E., 14 Ellen Street, Heaton Norris, Stockport.  
 1907 .. McLaughlin, H., Havera Bank, Sedbergh.

- 1891 .. **McLean, Kenneth**, Pennine View, Harrogate.  
 1909 .. Major, Rev. H. D. A., M.A., Clergy College, Ripon.  
 1908 .. Malone, Michael, 3 Ingleby Street, Brownroyd, Bradford.  
 1905 .. March, H., 2 West Hill Terrace, Chapel Allerton, Leeds.  
 1903 **L. Margerison, Samuel**, Calverley, Leeds.  
 1907 .. Martin, A. H., Ravenswood, Low Fell, Gateshead.  
 1905 .. Mason, F. A., 12 Hill Top Avenue, Harehills, Leeds.  
 — .. **Massee, George**, F.L.S., V.M.H., Gateacre, Sandycombe Road, Kew Gardens. Surrey.  
 1901 .. Massey, Herbert, F.E.S., Ivy Lea, Didsbury, Manchester.  
 1905 .. Matthews, E. R., C.E., F.G.S., Borough Engineer, Bridlington.  
 1887 .. Meek, J. M., M.A., 6 Nelson Terrace, Coatham, Redcar.  
 1896 .. Melrose, J., Clifton Croft, York.  
 1894 .. Melvill, J. C., M.A., F.L.S., Meole Brace Hall, Shrewsbury.  
 1907 .. Midgley, H., 5 Thoresby Street, Princes' Avenue, Hull.  
 1908 .. Midgley, T., Chadwick Museum, Bolton.  
 1893 **L. Mills, F. W.**, F.R.M.S., Thornleigh, Huddersfield.  
 1905 .. Mitchell, E., 80 Coltcote Avenue, Harehills, Leeds.  
 — .. **Moiser, H. R.**, F.G.S., Heworth Grange, York.  
 1896 .. **Moore, Harry**, F.R.M.S., 12 Whiston Grove, Rotherham.  
 1900 .. Moore, H. H., 5 Olga Avenue, Cowersley, Milnsbridge, Huddersfield.  
 1906 .. **Morley, B.**, Wind Mill, Skelmanthorpe, Huddersfield.  
 1883 .. Morrison, Walter, J.P., Malham Tarn House, Settle.  
 1905 .. Morse, E. W., Staff Postal Branch, P.O., Leeds.  
 1889 .. **Mortimer, J. R.**, Driffeld.  
 1906 .. Moses, G. W., West View, Bishop Auckland.  
 1899 .. Moss, C. E., D.Sc., F.R.G.S., Botany School, Cambridge.  
 1901 .. Muff, H. B., F.G.S., H.M. Geological Survey, 33 George Square, Edinburgh.  
 1907 .. Murdoch, G. W., F.Z.S., Woodbine House, Bentham, R.S.O., *via* Lancaster.  
 1886 .. **Naughton, John**, Fllesmere School, Park View, Harrogate.  
 1889 .. **Naylor, E.**, Heather Bank, Hazelhurst Road, Bradford.  
 1909 .. Needham, James, Wood End. Hebden Bridge.  
 1887 .. **Nelson, T. H.**, M.B.O.U., Seafield, Redcar.  
 1907 .. Nettleton, Stanley, Roundwood, Ossett, Leeds.  
 1885 .. **Newbitt, Thomas**, F.G.S., 17 Royal Crescent, Whitby.  
 1901 .. Newcomen, G. H. T., Kirkleatham Hall, Redcar.  
 1900 .. Newsholme, G. T. W., F.C.S., 27 High Street, Sheffield.  
 1890 **L. Newton, Rev. C. H.**, Vicarage, Redditch.  
 1888 .. Oldroyd, Charles, Lund, near Beverley.  
 1899 .. **Ostheide, Heinrich**, 91 Harehills, Avenue Leeds.  
 1890 **L. Oxley, H.**, Spensfield, Weetwood, Leeds.  
 1888 .. Oxley, Rev. W. H., M.A., Petersham Vicarage, Surrey.  
 1888 .. Painter, Rev. W. H., Stirchley Rectory, Shifnal, Salop.  
 1900 .. Parkin, William, F.A.I., The Mount, Sheffield.  
 1906 .. **Parkin, W. H.**, Studholme, Shipley.  
 — .. **Parsons, H., Franklin** M.D., Oakhurst, 4 Park Hill Rise, Croydon.  
 1905 .. Patterson, J. W., 20 South Road, West Hartlepool.  
 1909 .. Patten, C. J., M.A., M.D., Sc.D., Professor of Anatomy, University, Sheffield.  
 1891 **L. Pawson, A. H.**, J.P., F.L.S., Howe Combe, Watlington, Oxon. (Ex-President).  
 1891 **L. Pawson, Mrs. A. H.**, Howe Combe, Watlington, Oxon.  
 1906 .. Peacock, Rev. E. A. W., F.G.S., Cadney, Brigg, Lincolnshire.  
 1893 .. **Peake, Rev. Edward**, M.A., Hillside, Bradfield, Berks.  
 — .. Pearson, H. W., Castle Howard Road, Malton.  
 1909 .. Peck, A. E., Kingston Villa, Broom Lane, Rotherham.

- 1905 .. Peck, M. C., Park Villa, The Valley, Scarborough  
 1893 .. **Petch, T.**, B.Sc., B.A., The Lawn, Peradenirya, Ceylon.  
 1894 .. **Petty, S. Lister**, Dykelands, Ulverston.  
 1902 .. Philip, R. H., 447 Beverley Road, Hull.  
 1901 .. Pickard, J. F., 13 Hyde Terrace, Leeds.  
 1908 .. Pittaway, E., 4 Henley Villas, Adderbury Grove, Beverley Road, Hull.  
 — .. **Pocklington, H.**, 11 Regent Park Terrace, Leeds.  
 — **L. Porritt, G. T.**, F.L.S., F.E.S., Elm Lea, Dalton, Huddersfield. (Ex-President).  
 1894 .. **Potter, E. G.**, Carr Lane, Acomb, York.  
 — .. Powell, Sir F. S., Bart., M.P., Horton Old Hall, Bradford.  
 1887 .. **Powys, Rev. H. A.**, M.A., Vicarage, Meanwood, Leeds.  
 1902 .. **Pratt, Rev. Charles T.**, M.A., Cawthorne Vicarage, Barnsley.  
 1896 .. Priestley, F. N., Kingswood, Chapeltown, Leeds.  
 1890 .. Procter, J. W., Ashcroft, York.  
 1884 .. Prodhams, Herbert, Allerston, Pickering.  
 1898 .. Punch, J. W. R., Hastoe House, Southfield Road, Middlesborough.  
 1894 .. Punshon, Mrs. R. M., Ingleby House, Northallerton.  
 1907 .. Ralfe, P. G., M.B.O.U., Castletown, I.O.M.  
 1908 .. Reed, Rev. Ferguson, B.A., Whitwood Rectory, Normanton.  
 1883 .. Richmond, Rt. Rev. J. J. Pulleine, D.D., Bishop of, Stanhope Rectory, Darlington.  
 — .. Ripon, Most Hon. Marquis of, K.G., Studley Royal, Ripon.  
 1908 .. Roberts, S., Jr., M.A., The Beeches, Park Grange, Sheffield.  
 1890 .. **Roberts, Walter**, F.R.G.S., Lynwood, Avenue Road, Doncaster.  
 1898 .. **Robertshaw, A. Gibson-**, Gordon Bank House, Midgley, Luddenden Foot, R.S.O.  
 1902 .. Robinson, A. S., B.A., M.B., Dundas Villa, Redcar.  
 1892 .. **Robinson, J. F.**, 22 Harley Street, Hull.  
 1908 .. Robinson, J. G., B.A., J.P., Cragdale, Settle.  
 1908 .. Robinson, J. H., Carlinghow, Batley.  
 1908 .. Robinson, Wilfred, B.Sc., 22 Harley Street, Hull.  
 1887 .. **Robinson, William**, Greenbank, Sedbergh.  
 — .. **Roebuck, W. Denison**, F.L.S., 259 Hyde Park Road, Leeds. (Ex-President).  
 1907 .. Roose, T., Bolton Abbey, Skipton.  
 1889 .. Rowntree, Allan, Westwood, Scarborough.  
 — **L. Rowntree, J. H.**, Folkton Manor, Ganton, York.  
 1900 .. Rudd, H. B., 29 Westgate, Ripon.  
 1901 .. Sachse, W., Asgard House, Linthorpe, Middlesborough.  
 1888 **L. St. Paul, Major H.**, J.P., The Willows, Ripon.  
 1890 .. St. Quintin, W. H., J.P., D.L., M.B.O.U., Scampston Hall, Rillington, York.  
 1908 .. Sanderson, A. R., 109 Lower Rushton Road, Thornbury, Bradford.  
 1897 .. Saner, C. O. F., 2 Elgin Villas, Anlaby Road, Hull.  
 1907 .. Saunders, T. W., 15 Cambridge Street, Saltburn.  
 1884 .. **Sawdon, F. J.**, M.D., 22 Grosvenor Crescent, Scarborough.  
 1889 .. Scharf, R. F., Ph.D., Tudor House, Dunderum, Dublin.  
 1905 .. Schwabe, A. L., 56 Market Street, York.  
 1908 .. Scruton, H. A., B.Sc., F.I.C., 33 Southfield Road, Middlesborough  
 1907 .. Service, R., M.B.O.U., Maxwelltown, Dumfries.  
 1900 .. Sewell, J. T., Chubb Hill Road, Whitby.  
 1886 .. Sheffield Central Free Library, c/o S. Smith, Surrey Street, Sheffield  
 1897 .. **Sheppard, T.**, F.G.S., The Museum, Hull.  
 1891 .. Shillito, John, J.P., 4 Park View, Hopwood Lane, Halifax.  
 — .. **Shuffrey, Rev. W. A.**, M.A., Arncliffe Vicarage, Skipton.  
 1903 .. Sikes, Miss H. M., Doe Royd, Almondbury, Huddersfield.  
 1908 .. Silverlock, O. C., Allington, Burbage Road, Herne Hill, S.E.  
 1905 .. Simpson, H., 17 Turner Street, Redcar.

- 1894 .. **Simpson, William**, F.G.S., Catteral Hall, Settle, Yorkshire.  
 1899 .. Skipwith, Mrs. S. F., c/o Miss E. Ross, Wadsworth Hall, Doncaster.  
 1904 — Slater, H., School House, Helmsley.  
 — .. **Slater, Matthew, B.** F.L.S., 84 Newbeggin, Malton.  
 1907 .. Smith, S. H., 20 Park Crescent, York.  
 1905 .. Smith, T., London Road, Alderley Edge.  
 1903 .. **Smith, W. G.**, B.Sc., Ph.D., College of Agriculture, George Square, Edinburgh.  
 1897 .. **Snelgrove, E.**, B.A., 61 Harcourt Road, Sheffield.  
 1908 .. Sowden, J., 1 Blenheim Road, Bradford.  
 — .. Stainforth, T., 61 Hopwood Street, Hull.  
 — .. Stather, A. J., 224A Spring Bank, Hull.  
 1891 .. **Stather, J. W.**, F.G.S., Brookside, Newland Park, Hull.  
 1886 .. **Stears, John**, Westholme, Hessle, Hull.  
 1907 .. Steward, E. S., F.R.C.S., 10 Princes Square, Harrogate.  
 1884 .. **Stiles, M. H.**, F.R.M.S., 10 Avenue Road, Doncaster.  
 1889 .. Strickland, W. W.,  
 1899 .. Strother, T. W., F.Z.S, Westfield, Killinghall, Leeds.  
 1905 .. Stump, E. C., Polefield, Blackley, Manchester.  
 — .. **Summerfield, Rev. R. A.**, M.A., North Stainley, Vicarage Ripon.  
 1890 .. **Suteliffe, J. W.**, The Hollies, Greenroyd, Halifax.  
 1908 .. Sykes, A. W., High Close, Kidroyd, Huddersfield.  
 1908 .. Tait, A., M.B., Lower House, Lepton, Huddersfield.  
 1899 .. Taylor, C. E., Akay, Sedbergh, R.S.O., Yorkshire.  
 — .. **Taylor, J. W.**, North Grange, Horsforth, Leeds.  
 1884 .. **Taylor, Rev. R. V.**, B.A., Melbecks Vicarage, Richmond, Yorkshire.  
 1900 .. **Taylor, T. H.**, M.A., The University, Leeds.  
 1897 **L.** Teal, Joseph, Bankfield House, Yeadon.  
 — .. Tetley, C. F., M.A., J.P., Spring Bank, Headingley, Leeds.  
 1903 .. Thirkell, E. W., Aldwarke, Rotherham.  
 1890 .. **Thomas, W. H.**, The Ness, Roman Road, Linthorpe, Middlesbro'.  
 1890 .. **Thompson, M. L.**, F.E.S., 40 Gosford Street, Middlesborough.  
 1894 .. Tiddeman, H. L., R.H., M.A., F.G.S., Oxford. (Ex-President).  
 1895 .. Tindall, F. M., Overdale, Ranmoor, Sheffield.  
 1884 .. **Travis, Rev. W. T.**, M.A., The Rectory, Ripley, Leeds.  
 1889 .. **Trechmann, C. O.**, Ph.D., F.G.S., Hudworth Tower, Castle Eden.  
 1897 .. Tunstall, W., F.E.S., Heath Villas, Halifax.  
 1889 .. **Turner, B.**, 10 Pitt Street, Barnsley.  
 1907 .. Turner, J., Scholes Moor, Holmfirth.  
 1907 .. Upcott, H., F.R.C.S., 15 Albion Street, Hull.  
 1890 .. **Veitch, W. Y.**, M.R.C.S., 6 Southfield Villas, Middlesbrough.  
 1899 .. **Waddington, John**, F.E.S., 50 Harehills Avenue, Leeds.  
 1907 .. Wade, E. W., M.B.O.U., Vittoria Hotel, Hull.  
 1908 .. Wager, M. E., B.Sc., Cragg Road, Mytholmroyd.  
 1894 .. **Wager, Harold**, F.R.S., Hendre, Horsforth Lane, Far Headingley, Leeds.  
 1888 .. **Waite, Edgar R.**, F.L.S., Canterbury Museum, Christchurch, New Zealand.  
 1907 .. Wakefield, E. H., Waterloo Road, Barnsley.  
 1909 .. Walker, Herbert, Beechwood Grove, Ilkley.  
 — .. **Walsingham, Rt. Hon. Lord**, Merton Hall, Watton, S.O., Norfolk. (Ex-President).  
 1884 .. **Walton, F. F.**, F.G.S., 19 Charlotte Street, Hull.  
 1887 .. **Ward, Thomas F.**, Park Road South, Middlesborough.  
 1891 .. **Waterfall, Charles**, 1 Hymer's Avenue, Spring Bank, Hull.  
 1906 .. Waterworth, H., 7 Kingsley Place, Halifax.  
 1885 .. **Watson, Arnold, T.**, F.L.S., Southwold, Tipton Crescent, Sheffield.  
 1903 .. **Wattam, W. E. L.**, 54 Town Gate, Newsome, Huddersfield.  
 1887 .. **Watts, Rev. A.**, F.G.S., Rectory, Wilton Gilbert, Durham.  
 1901 .. West, Prof. G. S., B.A., F.L.S., University, Birmingham.



- .. **West, William**, F.L.S., 26 Woodville Terrace, Little Horton Lane, Bradford. (Ex-President).
- 1897 .. **Wheat, J. B.**, M.A., Norwood Hall, Sheffield.
- 1901 .. **Wheldon, J. A.**, F.L.S., 60 Hornby Road, Walton, Liverpool.
- 1904 .. **Whitaker, A.**, Saville House, Worsborough Bridge, near Barnsley.
- 1909 .. **Whitaker, F. W.**, 10 Upper Howard Street, Batley.
- 1890 — **Whitaker, Lieut. J. A.**,
- .. **Whitaker, T. S.**, F.R.G.S., Everthorpe, Brough.
- 1899 .. **White, Alfred**, F.Z.S., Derwentdale, Oakwood Avenue, Roundhay, Leeds.
- 1897 .. **Whitham, T.**, The Moorlands, Bramhope, Leeds.
- 1908 .. **Whitehead, Rev. G. T.**, Thornton Watlass Rectory, Bedale.
- 1891 .. **Whiteley, J. H.**, B.A., M.P., Brantwood, Halifax.
- .. **Whitwell, W.**, F.L.S., Brookside, Darley Knowle, Warwickshire.
- 1904 .. **Wilcox, R. L.**, South Eastern Hospital, New Cross, London, S.E.
- 1893 .. **Wilkinson, H. J.**, The Lodge, St. Helen's Square, York.
- 1892 .. **Wilkinson, J. J.**, Burnside, Skipton.
- 1894 .. **Wilkinson, Johnson**, M.B.O.U., Vermont, Huddersfield.
- 1903 .. **Wilkinson, T.**, Rustic Cottage, Eldwick, Bingley.
- 1901 .. **Wilson, Albert**, F.L.S., F.R.Met.S., 4 Eaton Road, Ilkley.
- 1890 .. **Wilson, H. J.**, M.P., Osgathorpe Hill, Sheffield.
- .. **Wilson, J. E.**, F.G.S., Dunholm, Ilkley-in-Wharfedale.
- 1906 .. **Wilson, W.**, Ryedale, Keighley Road, Coine, Lancs.
- .. **Winter, E. A.**, 14 Baxtergate, Doncaster.
- .. **Winter, George**, F.R.M.S., 14 Baxtergate, Doncaster.
- 1905 .. **Winter, W. P.**, B.Sc., Hope View, Moorhead, Shipley.
- 1890 .. **Woodhead, T. W.**, Ph.D., F.L.S., Hood Royd, Almondbury, Huddersfield.
- 1904 .. **Woods, Rev. F. H.**, B.D., Bainton Rectory, near Driffield.
- 1890 **L. Wright, C. B. E.**, J.P., D.L., Bolton Hall, Clitheroe.
- 1901 .. **Wroot, H. E.**, 45 Pollard Lane, Bradford.
- .. **Yewdall, E.**, 58 Wade Lane, Leeds.

## LIST OF SOCIETIES

### Affiliated with the Yorkshire Naturalists' Union.

- BARNSELY NATURALISTS' SOCIETY.**—H. Wade, 10 Pitt Street, Barnsley.
- BERRY BROW NATURALISTS' SOCIETY.**—J. S. Taylor, Fair Hill, Berry Brow.
- BOOTHAM SCHOOL NATURAL HISTORY SOCIETY.**—T. H. Knight, Bootham School, York.
- BRADFORD SCIENTIFIC ASSOCIATION.**—Rosse Butterfield, Wilsden, Bradford.
- BRADFORD NATURAL HISTORY AND MICROSCOPICAL SOCIETY.**—F. Jowett, 2 Vincent Street Bradford.
- CLEVELAND NATURALISTS' FIELD CLUB.**—F. Elgee, 23 Kensington Road, Middlesborough.
- Craven Naturalists' Society.**—T. H. Holmes, 20 Castle View Terrace, Skipton.
- CROSSHILLS NATURALISTS' SOCIETY.**—J. Holmes, 9 Campbell Street, Crosshills.
- DARLINGTON and TEESDALE NATURALISTS' FIELD CLUB.**—A. C. Boyde, Education Offices, Darlington.
- DONCASTER GRAMMAR SCHOOL NATURAL HISTORY SOCIETY.**—H. V. Corbett, 9 Priory Place, Doncaster.
- DONCASTER SCIENTIFIC SOCIETY.**—R. Watson, 52 Christ Church Road, Doncaster.
- EAST RIDING NATURE STUDY ASSOCIATION.**—W. J. Algar, School House, Lockington, near Beverley.
- ELLAND NATURALISTS' SOCIETY.**—G. H. Barrett, 111 Park Road, Elland.

- GOOLE SCIENTIFIC SOCIETY.—T. W. Hiley, 28 North Street, Goole.  
 GREETLAND AND WEST VALE NATURALISTS' SOCIETY.—W. Moore, 15 Crosshill, Greetland.  
 HALIFAX SCIENTIFIC SOCIETY.—F. Barker, 11 Hall Street, Halifax.  
 HEBDEN BRIDGE LITERARY AND SCIENTIFIC SOCIETY.—W. Nowell, 3 Bank Side, Hebden Bridge.  
 HECKMONDWIKE NATURALISTS' SOCIETY.—S. Grayshon, Flush, Heckmondwike.  
 HONLEY NATURALISTS' SOCIETY.—J. T. Collier, 11 School Street, Honley, near Huddersfield.  
 HUDDERSFIELD NATURALISTS' AND PHOTOGRAPHIC SOCIETY.—C. Mosley, 213 Lockwood Street, Lockwood, Huddersfield.  
 HULL CO-OPERATIVE FIELD NATURALISTS' CLUB.  
 HULL JUNIOR FIELD NATURALISTS' CLUB.—A. J. Moore, 9 Brook Street, Hull.  
 HULL GEOLOGICAL SOCIETY.—J. W. Stather, F.G.S., Brookside, Newland, Hull.  
 HULL SCIENTIFIC AND FIELD NATURALISTS' CLUB.—T. Stainforth, The Museum, Hull.  
 LEEDS CONCHOLOGICAL CLUB.—F. Booth, 18 Queen's Road, Shipley.  
 LEEDS CO-OPERATIVE NATURALISTS' FIELD CLUB.—A. Hodgson, 44A Lincoln Road, Leeds.  
 LEEDS GEOLOGICAL ASSOCIATION.—E. Hawkesworth, Sunnyside, Crossgates, Leeds.  
 LEEDS NATURALISTS' CLUB AND SCIENTIFIC ASSOCIATION.—J. D. Firth, F.L.S., 22 Burchett Place, Woodhouse, Leeds.  
 LINDLEY NATURALISTS' AND PHOTOGRAPHIC SOCIETY.—J. Ackroyd, Ainley Top, Lindley, Huddersfield.  
 MALTON NATURALISTS' SOCIETY.—R. H. Smithson, 46 Castle Gate, Malton.  
 MILNSBRIDGE NATURALISTS' SOCIETY.—W. E. Bradley, Hayes Buildings, Smithriding, Linthwaite, Huddersfield.  
 NORTH EASTERN RAILWAY NATURAL HISTORY AND SCIENTIFIC SOCIETY.—W. Hewett, 12 Howard Street, York.  
 OVENDEN NATURALISTS' SOCIETY.—E. Greenwood, 41 Prospect Place, Ovenden, near Halifax.  
 RAVENSTHORPE NATURALISTS' SOCIETY.—H. Parkinson, 2 Garden Terrace, Ravensthorpe.  
 ROTHERHAM NATURALISTS' SOCIETY.—G. Howard, Sitwell Vale, Moorgate, Rotherham.  
 SCARBOROUGH FIELD NATURALISTS' SOCIETY.—E. A. Wallis, Newboro', Scarborough.  
 SCARBOROUGH PHILOSOPHICAL AND ARCHEOLOGICAL SOCIETY.—H. King, F.I.C., 8 Avenue Road, Scarborough.  
 SHEFFIELD NATURALISTS' CLUB.—C. Bradshaw, F.C.S., Public Museum, Sheffield.  
 SHEPLEY AND DISTRICT NATURALISTS' SOCIETY.—W. Goldthorpe, Junr., Hardingley, Shelley, near Huddersfield.  
 SPEN VALLEY LITERARY AND SCIENTIFIC SOCIETY.—A. Moore, Booth Road, Cleckheaton.  
 THIRSK AND DISTRICT NATURALISTS' FIELD CLUB.—J. E. Hall, Market Place, Thirsk.  
 WAKEFIELD NATURALISTS' SOCIETY.—H. G. Townsend, Myrtle House, Altoft, Normanton.  
 YORK AND DISTRICT FIELD NATURALISTS' SOCIETY.—S. H. Smith, 20 Park Crescent, Monkgate, York.

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|   |       |
|---|-------|
| Total number of members' belonging to the Yorkshire Naturalists' Union                                  | 427   |
| Total number of Subscribing Societies .. .. .   | 43    |
| Total number of members belonging to Societies affiliated with the Yorkshire Naturalists' Union .. .. . | 3636  |
|   | <hr/> |
|   | 4106  |



# MALTBY FUNGUS FORAY.

C. CROSSLAND, F.L.S.

## LIST OF SPECIES

Found during the five days Fungus Foray at Maltby, and in the neighbourhoods of Roche Abbey, Sandbeck, and Firbeck; the General Report for same will be found in 'The Naturalist,' Nov., pp. 337-340, and Dec., pp. 367-370, 1905. Habitat and locality are added to almost every species.

The eight species marked \* are new to the Yorkshire Fungus Flora, and the one marked \*\* is new to Britain.

Synonyms are given in only one or two instances; others, if necessary, may be found in the Yorks. Fungus Flora.

The initials for the several localities are as follow:—

|                        |                              |
|------------------------|------------------------------|
| M. = Maltby.           | R.A.V. = Roche Abbey Valley. |
| M.W. = Maltby Wood.    | F. = Firbeck.                |
| M.C. = Maltby Common.  | K.W. = King's Wood.          |
| S.W. = Stubbings Wood. |                              |

## BASIDIOMYCETES.

### (GASTROMYCETES,)

- Sphaerobolus** Tode.  
S. stellatus Tode. M.W., R.A.V., F.  
On rotten wood and bark.
- Lycoperdon** Tournf.  
L. echinatum Pers. M.W., R.A.V.  
In woods among dead leaves, etc.
- L. saccatum Vahl. M.W.  
Among moss and dead leaves.
- L. gemmatum Batsch. M.W., F.  
Among moss and dead leaves.
- \*\* L. cruciatum Rostk. M.W.  
On the ground among moss,  
decaying twigs, etc.
- L. pyriforme Schæff. M., R.A.V., F.  
Common on the ground and on  
rotten, moss-covered sticks.
- L. bovista L. M.  
In pastures.
- L. perlatum Pers. F.  
In a wood, on the ground.
- Bovista** Dill.  
B. pusilla (Fr.) De Toni. M.W.  
On the ground and rotting sticks.
- Scleroderma** Pers.  
S. vulgare Fr. M.W., R.A.V.  
On the ground in woods.
- S. verrucosum Pers. M.W.  
On the ground.
- Mutinus** Fr.  
M. caninus (Huds.) Fisch. M.W.

## (HYMENOMYCETES)

### AGARICACEÆ.

#### Agariceæ

##### Leucosporæ.

- Amanita** Pers.  
A. phalloides Fr. M.W., F.  
On the ground in woods.
- A. mappa (Batsch). M.W., R.A.V.,  
F. On the ground in woods.
- A. muscaria (L.) Fr. M.C.  
Among bracken and birch.
- A. pantherina (DC.) Fr. M.W.,  
R.A.V. Under trees.
- A. rubescens (Pers.) Fr. M.C.  
On the ground.
- Lepiota** Pers.  
L. procera (Scop.), M.W., Nor  
Wood, R.A.V.  
In quantity in a well-defined ring  
among fir-needles.
- L. acutesquamosa (Weinm.). M.W.  
R.A.V., F.  
Common on the ground among  
moss in woods.
- L. hispida (Lasch). F.
- L. cristata (A. & S.). M.W., R.A.V.,  
F. In open woods.
- L. carcharia (Pers.). M.  
In pastures.



- L. granulosa (Batsch). F.  
In open wood.  
Var. rufescens B. & Br. F.  
In open wood.  
L. parvannulata (Lasch). M.W.  
Among grass in open part of the  
wood.  
L. seminuda (Lasch). M.W.  
On the ground.  
L. Bucknallii B. & Br. M.W.  
Among decaying twigs.

**Armillaria** Fr.

- A. mellea (Vahl). M.W., R.A.V., F.  
On new stumps.

**Tricholoma** Fr.

- T. sejunctum (Sow.). M.W.  
Riding-side among grass.  
T. spermaticum Fr. M.W.  
On the ground.  
T. rutilans (Schæff.). M.W.  
On decaying stumps.  
T. variegatum (Scop.). M.  
T. immundum (Berk.). R.A.V.  
In pasture.  
T. murinaceum (Bull.). R.A.V.  
On the ground among moss, etc.,  
in Nor Wood.  
T. saponaceum Fr. R.A.V.  
In pasture.  
T. cuneifolium Fr.  
Var. cinereo-rimosum. R.A.V.  
T. inamoenum Fr. R.A.V.  
T. carneum (Bull.). R.A.V.  
In pasture.  
T. albellum Fr. R.A.V.  
T. album (Schæff.) R.A.V.  
On the ground among dead twigs  
and herbaceous stems, the  
almost fasciculate sporophores  
springing from dense cushions  
of white, floccose mycelium.  
T. leucocephalum Fr. M.W.  
T. personatum Fr. M.  
In pastures.  
T. nudum (Bull.). R.A.V.  
Among dead larch-leaves in  
King's Wood.  
T. grammopodium (Bull.). M.  
In rich pasture.  
T. humile Fr. R.A.V.  
In pasture.  
T. subpulverulentum (Pers.). M.  
In pasture.

**Clitocybe** Fr.

- C. cerusata Fr. R.A.V., F.  
On the ground among grass.  
C. aggregata (Schæff.). R.A.V.  
C. geotropa (Bull.). R.A.V.  
In pasture.

- \* C. subinvoluta (Batsch). F.  
On the ground among grass.  
C. inversa (Scop.). M.W.  
On the ground among moss,  
twigs, etc.  
C. ericetorum (Bull.). R.A.V.  
On the ground among rotting  
leaves.  
C. brumalis Fr. M.W.  
Among rotting twigs, etc.  
C. metachroa Fr. M.W.  
Among moss, leaves, etc.  
C. ditopoda Fr. R.A.V.  
Among moss, decaying leaves,  
etc.  
C. fragrans (Sow.). M., R.A.V.  
Among moss in poor pasture.

**Laccaria** B. & Br.

- L. laccata (Scop.). M.W., R.A.V.  
On the ground in woods and other  
places.  
Var. amethystina Bolt. M.

**Collybia** Fr.

- C. radicata (Bull.). M.W., R.A.V., F.  
About old stumps.  
C. maculata (A. & S.). M.W.,  
R.A.V., F.  
Common on the ground in woods.  
C. butyracea (Bull.). M.W., R.A.V.,  
F.  
On the ground in wood. Common.  
C. velutipes (Curt.). M.  
In pasture under ash tree and  
traceable to a branch root.  
On living ash. R.A.V.  
C. confluens (Pers.). K.  
On the ground among dead  
leaves.  
C. nummularia (Bull.). R.A.V.  
Among decaying grass and  
leaves.  
C. dryophila (Bull.). M.W.  
Among dead leaves.  
C. aquosa (Bull.). M.W.  
C. ocellata Fr. M.W.  
C. rancida Fr. M.W., R.A.V.  
On the ground with long, taper-  
ing root.

**Mycena** Pers.

- \* M. lineata (Bull.). R.A.V.  
M. rugosa Fr. M.W., R.A.V.  
On rotting stump.  
M. galericulata (Scop.).  
On decaying stumps; common in  
all the woods.  
M. polygramma (Bull.). M.W.,  
R.A.V., F. On rotting wood.  
M. atrocyanea (Batsch). F.  
Among rotting leaves.

- M. alcalina* Fr. M.W., F.  
On decaying stump.  
*M. ammoniaca* Fr. M.W.  
On decaying branch.  
*M. amicta* Fr. M.W.  
Among decaying grass.  
*M. acicula* (Schæff.). M.W.  
On rotting leaves.  
*M. sanguinolenta* (A. & S.). R.A.V.  
On dead leaves.  
*M. galopoda* Fr. M.W.  
On the ground.  
*M. clavicularis* Fr. M.W.  
*M. juncicola* Fr. F.  
Among decaying rush stems.

**Omphalia** Fr.

- O. oniscus* Fr. M.  
On shaded, heathy ground among moss.  
*O. umbellifera* (L.). R.A.V.  
On heathy bank.  
*O. fibula* (Johnst.). M.W., R.A.V.  
Among moss.

**Pleurotus** Fr.

- P. pantoleucus* Fr. M.C.  
On dead branches.  
*P. mitis* (Pers.). M.W.  
On dead branch.  
*P. chioneus* (Pers.). R.A.V.  
On dead branch.

*Rhodospora*.**Volvaria** Fr.

- V. parvula* Fr. M.  
On the ground among grass.

**Pluteus** Fr.

- P. cervinus* (Schæff.). F.  
On the ground near tree stump.

**Entoloma** Fr.

- E. sinuatum* Fr. R.A.V.  
*E. prunuloides* Fr. R.A.V.  
Among grass.  
*E. jubatum* Fr. M.  
In pastures.  
*E. sericellum* Fr. R.A.V.  
In pastures.  
*E. sericeum* (Bull.).  
Common in pastures.  
*E. nidorosum* Fr. M.W., R.A.V.  
On the ground in woods: abundant.

**Clitopilus** Fr.

- C. orcella* (Bull.). M.  
In pasture.

**Leptonia** Fr.

- L. lampropoda* Fr. R.A.V.  
*L. serrulata* Fr. M.  
*L. asprella* Fr. M.  
All in pastures.

**Nolanea** Fr.

- N. pascua* (Pers.). M., R.A.V., F.  
In woods and pastures.  
*N. pisciodora* (Ces.). R.A.V.  
Nor Wood, among grass.

**Eccilia** Fr.

- E. atropuncta* (Pers.) R.A.V.  
Nor Wood, on the ground.

*Ochrospora*.**Pholiota** Fr.

- P. erebia* Fr. M.W., S.W.  
*P. togularis* (Bull.). M.W.  
On the ground among dead twigs.  
Among butter-bur. M.  
*P. squarrosa* (Müll.). F.  
At the foot of ash living tree.  
*P. spectabilis* Fr. S.W.  
On stump.  
*P. mutabilis* (Schæff.). M.W., R.A.V.  
Common on stumps.  
*P. pumila* Fr. M.  
On the ground among short grass.

**Inocybe** Fr.

- I. lanuginosa* (Bull.). R.A.V.  
On the ground in woods.  
*I. echinata* (Roth.). M.W.  
On the ground.  
*I. rimosa* (Bull.). M., R.A.V., F.  
Common in the woods.  
*I. asterospora* Quel. M.W.  
On the ground.  
*I. geophylla* (Sow.). F.  
On the ground among grass.

**Hebeloma** Fr.

- H. fastibile* Fr. F.  
*H. mesophæum* Fr. M.W.  
*H. sinapizans* Fr. M.W.  
*H. crustuliniforme* (Bull.). R.A.V.  
*H. elatum* (Batsch). R.A.V.  
*H. longicaudum* (Pers.).  
\* *Var. radicum* Cke. F.  
All on the ground in woods.

**Flammula** Fr.

- F. sapinea* Fr. M.W.  
On stump.

**Naucoria** Fr.

- N. melinoides* Fr. R.A.V.  
Among grass in pasture.  
*N. striaepes* Cke. M.  
On the ground in pasture near a  
decaying tree root.

**Galera** Fr.

- G. tenera* (Schæff.). M., R.A.V.  
Common among grass in pasture  
and along waysides.  
*G. ovalis* Fr. R.A.V.  
In pasture.

- G. spartea Fr. R.A.V.  
In pasture.
- G. hypnorum (Batsch). M.W.,  
R.A.V., F.  
Among moss in woods.
- Cortinarius** Fr.  
All the Cortinarii grow on the ground, and mostly in woods.
- C. (Phlegmacium) decoloratus Fr. F.  
\* C. (Phleg.) scurus Fr. M.W.  
C. (Myxacium) elatior Fr. M.W.  
C. (Inoloma) albo-violaceus Fr. M.W.  
C. (Ino.) callisteus Fr. R.A.V.  
\* C. (Ino.) arenatus (Pers.). F.  
C. (Dermocybe) ochroleucus (Schæff.).  
C. (Derm.) camurus Fr. M.W.  
C. (Derm.) lepidopus Cke. R.A.V.  
C. (Telamonia) laniger Fr. F.  
C. (Tela.) impennis Fr. M.W.  
C. (Tela.) hinnuleus Fr. M.W.  
\* C. (Tela.) helvelloides Fr. M.  
C. (Tela.) injucundus Weinm. F.  
C. (Tela.) paleaceus Fr. M.W.,  
R.A.V.  
\* C. (Hygrocybe) uraceus Fr. F.  
C. (Hygr.) leucopus (Bull.). M.W.  
C. (Hygr.) bicolor Cke. S.W.  
C. (Hygr.) erythrinus Fr. R.A.V.  
C. (Hygr.) acutus (Pers.). R.A.V.

*Melanosporæ.*

- Agaricus** L.  
A. arvensis (Schæff.). M., etc.  
In meadows and pastures.
- A. campestris L. M., etc.  
In pastures.  
Var. villaticus Brond. M.  
On the ground in plantation.
- A. sylvaticus (Schæff.). M.W., F.  
A. hæmorrhoidarius Kalch. M.C.  
Among grass.

**Stropharia** Fr.

- S. æruginea (Curt.). R.A.V.  
On the ground in a wood.
- S. albocyanea (Desm.). M.  
In pastures.
- S. coronilla (Berk.). R.A.V.  
In pasture.
- S. stercoraria Fr. M.  
In pastures, on dung.
- S. semiglobata (Batsch).  
Very common in the fields on horse and cattle dung.

**Hypholoma** Fr.

- H. sublateritium (Schæff.). M.W.  
R.A.V., F. On stumps.
- H. capnoides Fr. K.W.  
Among dead larch-leaves.

- H. fasciculare (Huds.).  
Common on stumps.
- H. elæodes (Bull.). F.  
H. incomptum Mass. F.  
H. lacrymabundum (Bull. non. Fr.).  
R.A.V. On the ground.
- H. cotoneum Quel. S.W.  
On decaying stumps.
- H. hydrophilum (Bull.). M.W.
- Panæolus** Fr.  
P. phalænarium (Bull.). R.A.V.  
P. sphinctrinus Fr. M.  
P. campanulatus (L.). M.  
P. papilionaceus (Bull.). M.  
P. fimicola Fr. M.  
All on dung in pastures.

**Anellaria** Karst.

- A. separata (L.). M., R.A.V.  
On dung in pastures.
- A. scitula Mass. M.  
On cow dung among butter-bur.
- A. fimiputris (Bull.). M.  
On dung in pasture.

**Psilocybe** Fr.

- P. sarcocephala Fr. R.A.V.  
Near rotting stump.
- P. semilanceata Fr.  
Very common among grass in meadows and pastures.
- P. fœnisecii (Pers.). M., R.A.V.,  
F., etc.  
Among grass in both fields and woods. Common.

**Psathyra** Fr.

- P. spadiceo-grisea (Schæff.). M.W.,  
R.A.V. On rotten stumps.
- P. semivestita (B. & Br.). M.W.,  
R.A.V.

**Psathyrella** Fr.

- P. subatrata Fr. M.W.  
P. disseminata (Pers.). M.W., F.  
In crowds on decaying, mossy stumps.
- P. atomata Fr. M., R.A.V.  
Among grass.

**Coprinus** Pers.

- C. comatus Fr.  
On moist bank near the gateway house, Roche Abbey.
- C. atramentarius Fr. M.  
On the ground near old stump.
- C. fimetarius (L.). R.A.V.  
On dung in pastures.
- C. niveus Fr. M., R.A.V.  
On dung in moist places.
- C. micaceus (Bull.). M., F., etc.  
Frequent about old stumps.

- C. radiatus* (Bolton). M., R.A.V.  
On cow and horse dung in shady  
places among long grass.
- C. ephemerus* Fr. M.  
On manured ground.
- C. plicatilis* (Curt.). M., R.A.V.  
Frequent among grass.

**Paxilleæ.****Paxillus** Fr.

- P. paradoxus* (Kalchb.). M.W.  
*P. involutus* (Batsch). M.W.  
Common on ground in woods.
- P. panuoides* Fr. M.W.  
In axil of branch on old yew tree.

**Hygrophorus** Fr.

- All the species grow on the ground  
in woods or pastures, or on  
heaths.
- H. (Limacium) chrysodon* (Batsch).  
M.W., R.A.V., F.  
Fairly common in the woods.
- H. (Lima.) eburneus* (Bull.). M.W.  
In woodside pasture.
- H. (Lima.) cossus* (Sow.). M.W.,  
M.C.
- H. (Lima.) glutinifer* Fr. M.W.
- H. (Lima.) olivaceo-albus* Fr. R.A.V.  
In woods.
- H. (Camarophyllus) pratensis* Fr.  
M., R.A.V. In pastures.
- Var. *cinereus* Fr. M.  
In pasture.
- H. (Cama.) bicolor* Karst. M.  
In pasture.
- H. (Cama.) virgineus* Wulf. M.  
R.A.V. In pastures.
- H. (Cama.) niveus* (Scop.).  
Common in most of the pastures.
- H. (Hygrocybe) ceraceus* Wulf.  
R.A.V., F. In pastures.
- H. (Hygr.) coccineus* (Schæff.). M.  
In pastures.
- H. (Hygr.) miniatus* Fr. M.  
In heathy pasture.
- H. (Hygr.) puniceus* Fr. M.W.  
Common among decaying twigs,  
moss, etc., under hazel bushes.  
A rather unique habitat.
- H. (Hygr.) obrusseus* Fr. M., R.A.V.  
In pastures.
- H. (Hygr.) conicus* (Scop.). M., F.  
In pastures.
- H. (Hygr.) chlorophanus* Fr. R.A.V.  
In pastures.
- H. (Hygr.) psittacinus* (Schæff.). M.  
Common in the fields; was also  
found in Maltby Wood.

- \* *H. (Hygr.) spadiceus* Fr. F.  
In pasture.
- H. (Hygr.) unguinosus* Fr. M.  
In pasture.
- H. (Hygr.) nitratus* (Pers.). M.,  
R.A.V.  
On heath and in pasture.

**Lactariæ.****Lactarius** Fr.

- All the members of this and the  
succeeding genus grow on the  
ground, mostly in woods, or  
adjoining fields near trees.
- L. (Piperatus) torminosus* (Schæff.).  
M.C. On heathy ground.
- L. (Piper.) turpis* (Weinm.). M.W.,  
Nor Wood, etc.; <sup>D.</sup> A.V.
- L. (Piper.) cilicioides* Fr. M.W.
- L. (Piper.) aspideus* Fr. R.A.V.
- L. (Piper.) pyrogalus* (Bull.). F.  
In woods.
- L. (Piper.) quietus* Fr. M.W., R.A.V.  
F., etc. In woods.
- L. (Piper.) glyciosmus* Fr. M.W.  
In and on borders of woods.
- L. (Russularia) rufus* Scop. R.A.V.  
In woods.
- L. (Russ.) fuliginosus* Fr.  
In woods near Maltby Common.
- L. (Russ.) mitissimus* Fr. M.W., F.  
In woods.
- L. (Russ.) subdulcis* (Bull.). M.W.
- L. (Russ.) minimus* Sm. M.W.

**Russula** Pers.

- R. nigricans* (Bull.). M.W., R.A.V.
- R. adusta* Pers. M.W., F.
- R. densifolia* Secr. M.W., R.A.V.
- R. semicrema* Fr. R.A.V.
- R. chloroides* Bresad. F.
- R. cutefracta* Cke. M.W.
- R. vesca* Fr. R.A.V.
- R. cyanoxantha* (Schæff.). M.W.
- R. consobrina* Fr. F.
- R. emetica* Fr. M.C.
- R. ochroleuca* Fr. M.W.
- R. fragilis* Pers. M.W.
- R. veteriosa* Fr. R.A.V.
- R. puellaris* Fr. F.
- R. ochracea* A.&S. M.W.
- R. lutea* (Huds.). R.A.V.

**Marasmieæ.****Marasmius** Fr.

- M. peronatus* (Bolt.). M.W.  
Among dead leaves.
- M. oreades* (Bolt.). M.  
In rings in pasture.



- M. lagopus* Post. M.W.  
On decorticated branches.
- M. ramealis* (Bull.). M.W.  
On twigs, etc.
- M. rotula* (Scop.). M.W.  
On dead twigs.
- M. androsaceus* (L.). M.W., R.A.V.  
On dead oak-leaves.
- M. epiphyllus* Fr. M.W., Nor  
Wood, R.A.V. ; F.  
Very common in the woods on  
dead leaves and twigs in damp,  
shaded places.

**Lentinus** Fr.

- L. cochleatus* Fr. F.  
On dead stump.

**Panus** Fr.

- P. torulosus* Fr. R.A.V.  
On dead stump.

**POLYPORACEÆ.****Boleteæ.****Boletus** Dill.

All the following Boleti grow on  
the ground :—

- B. flavus* With. R.A.V., F  
Among grass in open places.
- B. subtomentosus* L. R.A.V.  
In woods.
- B. badius* L. M.W., R.A.V.  
In woods.
- B. piperatus* Bull. M.W.
- B. edulis* Bull. M.C.
- B. satanas* Lenz. M.C.
- B. laricinus* Berk. K.W.  
Among dead larch-leaves.
- B. viscidus* L. K.W.  
Among dead larch-leaves.
- B. scaber* Fr. M.W., R.A.V.  
Fairly common in the woods.

**Fistulina** Bull.

- F. hepatica* Fr. F.  
On living oak.

**Polyporeæ.****Polyporus** Mich.

- P. squamosus* (Huds.). M.W., R.A.V.  
On ash stumps.
- P. Rostkovii* Fr. M.W.  
On dead stump.
- P. sulphureus* Fr. R.A.V.  
On living yew.
- P. hispidus* Fr. M.  
On living ash.
- P. betulinus* (Bull.). M.W.  
On both living and dead birch.
- P. fumosus* Fr. M. On stump.

- P. adustus* Fr. M.  
On new stump.
- P. chioneus* Fr. R.A.V.  
On stump.
- P. cæsius* Fr. M.W.  
On decaying stump.
- Polystictus** Fr.
- P. versicolor* (Huds.).  
Common on stumps and dead  
trunks.

**Fomes** Fr.

- F. annosus* Fr. R.A.V., F.  
On pine stumps.
- F. applanatus* (Wallr.). R.A.V.  
On stumps.

**Poria** Pers.

- P. vaporaria* Fr. M.W., R.A.V., F.  
Common on rotten branches.
- P. blepharistoma* B.&Br. M.W.  
On dead leaves, etc.
- P. terrestris* Fr. M.W.  
On the ground.

**Dædalea** Pers.

- D. confragosa* Pers. F.  
On stump.

**HYDNACEÆ.****Hydnum** L.

- H. argutum* Fr. F.  
On rotten wood.

**Grandinia** Fr.

- G. granulosa* Fr. M.W.  
On rotten wood.

**THELEPHORACEÆ.****Stereum** Pers.

- S. hirsutum* Fr. M.W., M.C., etc.  
Common on dead branches.
- S. purpureum* Pers. R.A.V.  
On stump.

**Corticium** Fr.

- C. calceum* Fr. M.W.  
On dead branches.
- C. sambuci* Fr. M.W.  
On elder branches.
- C. sanguineum* Fr. M.W.  
On dead branches.

**Cyphella** Fr.

- C. capula* Fr. M.  
On dead butter-bur stems.

**Soppitiella** Mass.

- S. sebacea* (Berk.). M.W.  
Running up stems of dog mercury  
grass, etc.

**CLAVARIACEÆ.****Clavaria** Vaill.

- C. muscoides* L. M.W., R.A.V.  
In woods and pastures.

- C. cinerea Bull. M.W.; Nor Wood, R.A.V.; F.  
Common on the ground in woods.
- C. cristata Holmsk. M.W.; Nor Wood, R.A.V.; F.  
Common on the ground in woods.
- C. abietina Schum. R.A.V.  
On the ground in pine wood.
- C. fusiformis Sow. M.W., R.A.V.  
Among grass.
- C. vermicularis Scop. M.  
In pasture.

**Typhula** Pers.

- T. erythropus Fr. Nor Wood, R.A.V.  
Among damp, dead leaves.
- T. muscicola Fr. M.  
On bare ground among butter-bur.

**Pistillaria** Fr.

- P. puberula Berk. Nor Wood, R.A.V.  
Among damp, decaying poplar-leaves.

**TREMELLACEÆ.****Tremella** Dill.

- T. mesenterica Retz. R.A.V.  
On dead beech-branches.

**Dacryomyces** Nees.

- D. deliquescens Duby. M.W., F.  
On dead wood.
- D. stillatus Nees. M.W., R.A.V., F.  
On dead wood.

**Calocera** Fr.

- C. viscosa Fr. M.W., R.A.V.  
On dead stumps.

**UREDINACEÆ.****Melampsoreæ.****Melampsora** Cast.

- M. helioscopiæ (Pers.). M.  
On *Euphorbia pepylus* in garden.

**Coleosporium** Lév.

- C. sonchi (Pers.). M.  
Prevalent on *Petasites vulgaris*.
- C. euphrasiæ (Schum.). M.  
On *Euphrasia officinalis*.

**Puccineæ.****Uromyces** Link.

- U. polygoni (Pers.). M., R.A.V.  
On *Polygonum aviculare*.

**Puccinia** Pers.

- P. pulverulenta Grev. M.W.  
On *Epilobium hirsutum*.
- P. menthæ (Pers.). R.A.  
On garden mint, *Mentha viride*.

**P. saniculæ** Grev. M.W.

On *Sanicula europæa*.

**P. obscura** Schröt. R.A.

Æcidiospores on *Bellis perennis*.

**P. hieracii** (Schum.). R.A.V.

On *Crepis virens*.

**Phragmidium** Link.

- P. subcorticatum Schrk. M.  
On wild rose.

**USTILAGINACEÆ.****Ustilago** Pers.

- U. longissima (Sow.). R.A.  
On *Glyceria aquatica*.
- U. violacea Pers. R.A.V.  
On the anthers of *Lychnis diurna*.

**ASCOMYCETES.****(PYRENOMYCETES.)****Cordyceps** Fr.

- C. militaris (L.). R.A.V.  
On remains of dead insect.

**Hypocrea** Fr.

- H. rufa (Pers.). M., R.A.V.  
On decaying wood.

**Nectria** Fr.

- N. cinnabarina (Tode.). M.W.,  
R.A.V. On dead branches.

**Hypomyces** Fr.

- H. chrysospermus Tul. R.A.V.

**Dialonectria** Sacc.

- D. peziza (Tode.). F.  
On dead wood.

**Xylaria** Hill.

- X. hypoxylon (L.). M.W., R.A.V., F.  
On rotten wood.

**Ustulina** Tul.

- U. vulgaris Tul. M.W.  
On rotting stump.

**Rhytisma** Fr.

- R. acerinum Fr. F.  
On sycamore leaves.

**Stigmatea** Fr.

- S. Robertiana Fr. R.A.V.  
On living leaves of *Geranium Robertianum*.

**Eutypa** Tul.

- E. lata Tul. M.W., R.A.V., F.  
Encrusting dead branches.

**Sordaria** C. & DeN.

- S. minuta Wint. M.W.  
On rabbit dung.

**Lophiostoma** C.&DeN.

- L. caulium Fr. R.A.V.  
On dead stems of *Epilobium hirsutum*.

**Heptameria** Cke.

- H. doliolium Cke. M.  
On dead herbaceous stems.

**Sphærella** C.&DeN.

- S. taxi Cke. M.W.  
On living leaves of *Taxus baccata*.  
S. runicis Cke. M.W., R.A.V.  
On living leaves of *Rumex obtusifolius*.

**Sphærotheca** Lév.

- S. pannosa (Wallr.). M.  
On cultivated rose bushes.  
S. castagnei Lév. M.  
On *Epilobium montanum*.

**Erysiphe** Hedw.

- E. communis (Wallr.). M., R.A.V.  
On living leaves of *Polygonum aviculare*.  
E. eichoracearum DC. M.W., R.A.V.  
On living leaves of *Arctium Lappa* and *Heracleum spondylium*.

**(DISCOMYCETES.)****Pezizaceæ.****Rhizina** Fr.

- R. Oocardii (Kalch.). M.  
On dead thornwood lying half in water.

**Peziza** Dill.

- P. vesiculosa Bull. M.  
On the ground in garden corner.

**Otidea** Pers.

- O. cochleata (Bull.). Fekl. M.  
On bare ground in butter bur bed.  
O. aurantia (Pers.). Mass. M.  
On and about rotting, moss-covered stump.

**Humaria** Fr.

- H. granulata (Bull.). Sacc.  
Common on cow dung in all the fields investigated.

**Lachnea** Fr.

- L. scutellata (L.). Gillet. R.A.V.  
On moist, rotten wood.  
L. fimbriata Quel. M.  
On bare soil in butter bur bed.

**Sphærospora** Sacc.

- S. trechispora (B.&Br.). Sacc.  
R.A.V. On damp ground.

**Dasyscypha** Fr.

- D. virginea (Batsch) Fekl. R.A.V.  
On decaying twigs, etc.  
D. acutipila (Karst.) Sacc. R.A.  
On dead rushes at pond side.  
D. ciliaris (Schum.) Sacc. R.A.V.  
On dead oak-leaves.  
D. acuum (A.&S.) Sacc. R.A.V.  
On pine needles.  
D. hyalina (Pers.) Mass. M.W.  
On dead wood.  
D. fugiens (Phil.) Mass. R.A.  
On rotting rush stems.  
D. calycina (Schum.) Fekl. K.W.  
On larch, sparingly.

**Erinella** Quel.

- E. apala (B.&Br.) Mass. R.A.  
On decaying rushes, pond side.  
E. Nylanderi Rehm. F.  
On decaying nettle-stems.

**Chlorosplenium** Fr.

- C. æruginosum (Ed.) De N. M.W.  
On dead ash-branch.

**Cyathicula** De Not.

- C. coronata (Bull.). Nor Wood,  
R.A.V.  
On dead herbaceous stems.

**Helotium** Fr.

- H. claro-flavum (Grev.) Berk.  
R.A.V.  
H. ferrugineum (Schum.) Berk. F.  
On half-decayed branch.  
H. flavum (Klotsch) Phil. R.A.V.  
On dead wood.  
H. aciculare Pers. M.W.  
On dead stump among moss.  
H. sublenticulare Fr. M.W.  
On rotting wood.  
H. cyathoideum (Bull.) Karst.  
Very common on dead herbaceous stems in damp places.  
H. scutula (Pers.) Karst. M., R.A.V.  
On dead herbaceous stems.  
H. herbarum (Pers.) Fr. R.A.V.  
On dead herbaceous stems.  
H. epiphyllum (Pers.) Fr. R.A.V.  
On the veins of rotting leaves of black poplar.  
H. renisporum Ellis. R.A.V.  
On dead oak-leaves.  
H. fagineum (Pers.) Fr. M.W., F.  
On rotting shells of hazel nuts.
- Belonidium** Mont.&Dur.  
B. Clarkei Mass.&Crossl. R.A.V.  
On dead wood.  
B. pruinatum (Jerd.) Mass.  
On an effused *Pyrenomycte* encrusting dead branches.

**Mollisia** Fr.

- M. cinerea* (Batsch). R.A.V.  
On dead wood.  
*M. atrata* (Pers.) Karst. M.  
On dead herbaceous stems.

**Pseudopeziza** Fekl.

- P. albella* (With.) Mass.  
On dead branch.

**Ascobolaceæ.****Ascophanus** Boud.

- A. microsporus* (B.&Br.) Phil.  
R.A.V.  
On horse dung in fields.  
*A. carneus* Boud. M.  
On rich soil and dung, butter-bur  
bed.  
*A. equinus* (Mull.) Mass. M., R.A.V.  
On horse dung.

**Ascobolus** Pers.

- A. vinosus* Berk. M.W.  
On rabbit dung.  
*A. furfuraceus* Pers.  
Common on cow dung in all the  
pastures investigated.  
*A. immersus* Pers. R.A.V.  
On cow dung in pastures.

**Bulgariaceæ.****Orbilbia** Fr.

- O. leucostigma* Fr.  
Var. *xanthostigma* Rehm. F.  
On dead wood.  
*O. inflatula* Karst. F.  
On rotten wood.

**Coryne** Tul.

- C. sarcoides* (Jacq.) Tul. M.  
On new stump.

**Phacidiaceæ.****Phacidium** Fr.

- P. multivalve* Kze.&Schmidt. M.  
On dead holly-leaves

**PHYCOMYCETES.****Mucoraceæ.****Pilobolus** Tode.

- P. crystallinus* Tode.  
Common on cow dung in fields.  
*P. roridus* Pers. M.W.  
On rabbit dung.

**Mucor** Mich.

- M. mucedo* L. M.  
On rotting pear.  
Var. *caninus* (Pers.) R.A.  
On dog dung, road side.

**Peronosporaceæ.****Phytophthora** DeBy.

- P. infestans* DeBy. M., R.A.V.  
On potato-leaves.

**HYPHOMYCETES.****Cylindrium** Bon.

- C. flavo-virens* Bon. M.W., R.A.V.  
On dead oak-leaves.

**Penicillium** Link.

- P. glaucum* Link. M.W.  
On dead *Polyporus betulinus*.  
\* *P. hypomyces* Sacc. F.  
On *Trichia fragilis*.

**Botrytis** Mich.

- B. vulgaris* Fr. M.W.  
On dead herbaceous stems.

**Torula** Pers.

- T. herbarum* Link. R.A.V.  
On dead herbaceous stems.

**Cladosporium** Link.

- C. herbarum* Link. M.W., R.A.V.  
On dead herbaceous stems.

**Stilbum** Tode.

- S. tomentosum* Schrad. R.A.V.  
Parasitic on *Trichia*.  
*S. vulgare* Tode. F.  
On rotten wood.  
*S. fimetarium* B.&Br. M.W.  
On rabbit dung.

**Ægerita** Pers.

- Æ. candida* Pers. M.W.  
On rotten wood.

**MYXOMYCETES.****Ceratiomyxa** Schroet.

- C. mucida* (*Ceratum hydroides*  
A.&S.). F. On rotten wood.

**Stemonitis** Gled.

- S. fusca* Roth. F.  
On rotting wood.  
*S. typhina* Roth. F.  
On rotting wood.  
*S. Friesiana* DeBy. R.A.V.  
On rotting wood.



**Arcyria** Hill.

- A. punicea Pers. R.A.V.  
On rotting wood.  
A. incarnata Pers. M.W., F.  
On rotting wood.  
A. cinerea Schum. M.W.  
On decaying twigs.

**Trichia** Haller.

- T. fragilis Rost. F.  
On rotting wood.  
T. varia Pers. F.  
On rotting wood.  
T. fallax Pers. M.W., R.A.V., F.  
On rotting wood.  
T. affinis DeBy. R.A.V.  
On moss.

**Didymium** Schrad.

- D. farinaceum Schrad. F.  
On decaying branch.

- D. squamulosum Fr. R.A.V.  
On horse dung.

**Spumaria** Pers.

- S. alba DC. F.  
Among decaying leaves and grass.

**Craterium** Trent.

- C. confusum Mass. F.  
On dead leaves.

**Physarum** Pers.

- P. sinuosum (Bull.). M.  
On dead twig.

**Tilmadoche** Rost.

- T. nutans Rost. M.W., R.A.V., F.  
T. mutabilis Rost. R.A.V.  
On dead wood.

## Fungus Foray at Grassington, Bolton Woods, and Buckden, September, 1907.

C. CROSSLAND.

The Report will be found in the "Naturalist," November, 1907, pp. 397-401.

In the following list of species found the locality initials used are as follow:—

G. = Grassington.  
G.W. = Grass Woods.

B.W. = Bolton Woods.  
Bk.W. = Buckden Woods.

\* = First Yorkshire Record.

### *BASIDIOMYCETES.*

#### *(GASTROMYCETES.)*

- Lycoperdon saccatum.*  
On the ground. G.W.  
*L. gemmatum.*  
On the ground among grass.  
G.W.  
*L. pyriforme.*  
On the ground, and on rotten  
stump. G.W., B.W., Bk.W.  
*L. bovista.*  
Last year's remains in field. G.  
*L. velatum.*  
On the ground among moss,  
decaying twigs, etc. B.W.  
*Bovista nigrescens.*  
In fields near G.W.

*Scleroderma vulgare.*

- On heathy soil. B.W.  
*Ithyphallus impudicus.*  
On the ground. G.W., B.W.

#### *(HYMENOMYCETES.)*

##### *Agariceæ.*

##### *Leucosporæ.*

- Amanita phalloides.* G.W.  
*A. rubescens.* B.W.  
*Amanitopsis vaginatus.* G.W.,  
B.W., Burnsall.  
All three on the ground in woods.  
*Lepiota acutesquamosa.* G.W.  
*L. hispida.* Bk.W.  
Among decaying leaves, etc.  
*L. cristata.* G., B.W.

- L. carcharia.* G.  
*L. amianthina.* G.  
*L. polysticta.* G.  
 The last four in pastures.  
*Armillaria mellea.*  
 Common about the base of tree trunks, ash trees, more especially. G.W., B.W., Bk.W.  
*Tricholoma rutilans.* about rotting stumps. G.W., B.W., Bk.W.  
*T. terreum.*  
 On the ground. G.W.  
*T. album.*  
 On the ground. B.W.  
*T. nudum.*  
 Among grass in pasture. B.W.  
*Clitocybe nebularis.*  
 On the ground. G.W., B.W.  
*C. phyllophila.* B.W.  
 Among dead beech leaves.  
*C. infundibuliformis.* G.W., B.W.  
 Among dead beech leaves.  
*C. brumalis.* B.W.  
 On the ground among decaying twigs, etc.  
*Laccaria laccata.*  
 On the ground; common at all the places.  
 Var *amethystina.* G.W., B.W., Bk.  
*Collybia radicata.* B.W., Bk.W.  
 On old stumps.  
*C. platyphylla.* B.W.  
*C. maculata.* G.W., B.W.  
*C. butyracea.* B.W.  
*C. confluens.* G.W.  
*C. cirrhata.* Bk.W.  
*C. dryophila.* G.W.  
 The last six among rotting leaves.  
*C. clusilis.*  
 Among sphagnum, Buckden Pike  
*Mycena pura.* G.W., B.W.  
 Among grass.  
*M. zephira.* G.W.  
 On the ground among twigs.  
*M. lactea.* G.W., Bk.W.  
 Among pine leaves.  
 \**M. excisa.* Bk.W.  
 In pine woods.  
*M. rugosa.* Bk.W.  
 On stumps.  
*M. galiculata.* G.W., B.W., Bk.W.  
 On stumps.  
*M. polygramma.* G.W.  
 On stumps.  
*M. atrocyanea.* G.W.  
 On the ground among pine leaves.  
*M. amicta.* B.W.  
 On the ground among moss.  
*M. acicula.* B.W.  
 Among decaying twigs, etc.  
*M. galopoda.* B.W.  
 Among decaying twigs, etc.  
*M. epipterygea.* G.W. and Buckden Pike. Among grass.  
 On decaying fir cone in a wood near Burnsall.  
 \**M. pterigena.* G.W.  
 On dead fern stems.  
*M. saccharifera.* G.W.  
 On dead herbaceous stems.  
*M. capillaris.* G.W.  
 On dead beech leaves.  
*Omphalia umbellifera.* Buckden Pike.  
 On peaty ground.  
*O. camptophylla.* Bk.W.  
 On dead sticks.  
*O. grisea.* Bk.W.  
 On rotting twigs.  
*O. fibula.* G.W., Bk.W.  
 Among moss.  
*O. bullula.* G.W., B.W.  
 On decaying branches.  
*Pleurotus mitis.* Bk.  
 On dead branch.  
  
*Rhodosporeæ.*  
*Pluteus cervinus.* G.W.  
 Near rotting stump.  
*P. spilopus.* B.W.  
 On decaying stump.  
 \**Entoloma bulbigenum.* Bk.W.  
 On the ground.  
*E. jubatum.* G., B.W.  
 In pasture.  
*E. sericeum.* B.W.  
 Among grass.  
*Leptonia lampropoda.* B.W.  
 Among grass.  
*L. euchroa.* B.W.  
 On rotting wood.  
*Nolanea pascua.* G.W., B.W., Bk.W.  
 Among grass.  
*N. pisciodora.* B.W.  
 Among grass.  
  
*Ochrosporeæ.*  
*Pholiota togularis.* B.W.  
 Among grass.  
*P. squarrosa,* var. *Mülleri.* G.W.  
*P. tuberculosa.* Burnsall, B.W.  
 On decaying wood.  
*P. mutabilis.* G.W., Bk.W.  
 On decaying stump.

- P. unicolor.* Bk.W.  
On decaying trunk.
- P. mycenoides.* G.W.  
Among moss.
- Inocybe incarnata.* B.W.  
On the ground.
- I. rimosa.* G.W., Bk.W.  
On the ground;
- I. asterospora.* G.W., B.W., Bk.W.  
On the ground.
- I. geophylla.* G.W., B.W.  
On the ground.
- I. scabella.* G.W.,  
On the ground.
- Hebeloma crustuliniforme.*  
Common in G.W., B.W.
- H. longicaudum.* G.W.  
Among grass.
- H. magnimamma.* G.W.  
Among grass.
- Flammula alnicola.* Bk.W.  
On tree stump (sp ?).
- F. scamba.* Bk.W.
- Naucoria semiorbicularis.* Buckden  
Pike.
- N. temulenta.* Buckden Pike.
- N. conspersa.* G.W., B.W., Bk.W.  
Common in moist places among  
decaying leaves, twigs, etc.
- Galera tenera.* G.W.  
In pastures.
- G. ovalis.* G.W.  
Among grass.
- Crepidotus mollis.* B.W.  
On dead branches.
- Bolbitius titubans.* B.W.  
In pasture.
- Cortinarius (Phleg.) purpurascens.*  
G.W.
- C. (Derm.) diabolicus.* Bk.W.
- C. (Derm.) anomalus.* G.W.
- C. (Derm.) cinnamomeus.* Bk.W.
- C. (Tela) armillatus.*  
In a wood near Burnsall.
- C. (Tela.) hinnuleus.* G.W.
- C. (Tela.) punctatus.* Bk.W.  
Under beeches.
- C. (Tela.) paleaceus.* B.W.
- C. (Hygr.) dilutus.* Bk.W.
- C. (Hygr.) castaneus.* G.W.
- C. (Hygr.) jubarinus.* B.W.
- C. (Hygr.) Junghuhnii.* Bk.W.  
All the *Cortinarii* grow on the  
ground, mostly in woods.

#### *Melanosporeæ.*

- Agaricus arvensis.* G.  
In pasture.

- A. campestris.* G.  
In pasture.
- Stropharia æruginosa.* G.W., B.W.  
On the ground among decaying  
twigs, grass, etc.
- S. stercoraria.* G. Buckden Pike.
- S. semiglobata.* G., B.W., Bk.  
Both on cow dung.
- Hypholoma sublateritium.* G.W.,  
Bk.W.
- H. capnoides.* G.W.
- H. epixanthum.* G.W.
- H. fasciculare.* G.W., B.W., Bk.W.  
All four on stumps.
- H. lacrymabundum.* B.W.  
On the ground.
- Panæolus retirugis.* G.W.
- P. campanulatus.* G.W., Buckden  
Pike.
- P. papilionaceus.* G.
- P. fimicola.* Bk.  
Last four on dung in pastures.
- Anellaria separata.* G.W., Buck-  
den Pike. On dung.
- Psilocybe semilanceata.* G.W.,  
Burnsall, B.W., Bk.  
Among grass.
- Psathyrella atomata.* G.W., Bk.  
Among grass.
- Coprinus atramentarius.* B.W.
- C. fimetarius.* G.  
On the Hotel stable midden.
- C. niveus.* Same habitat as above.  
On cow dung. Buckden Pike.
- C. micaceus.* G.W., B.W., Bk.W.  
On rotting stumps.
- C. cordisporus,* Gibbs, n.sp. Buck-  
den Pike. On cow dung.
- C. radiatus.*  
Common on cow and horse dung.
- C. Gibbsii.* Buckden Pike.  
On cow dung.
- C. plicatilis.*  
Common at all the places among  
grass.
- C. hemerobius.* G.  
Among grass in the river-side  
pastures.
- Gomphidium gracilis.* G.W.

#### *Paxilleæ.*

- Paxillus involutus.* G.W., B.W.
- Hygrophorus eburneus.* G.W.
- H. hypothejus.* Bk.W.
- H. pratensis.* G.W., B.W., Bk.
- H. niveus.* G.W., B.W., Bk.
- H. ovinus.* G., Bk.
- H. lactus.* G., Bk.

- H. ceraceus. G.  
 H. coccineus. G.  
 H. puniceus. G.  
 H. obrusseus. G.  
 H. chlorophanus. G.  
 H. psittacinus. G., B.W., Bk.  
 H. unguinosus. G., Buckden Pike.  
 H. nitratus. G.

All the Hygrophori, with the exception of the first two, were found in pastures or meadows.

### *Lactariæ.*

- Lactarius torminosus. G.W.  
 L. turpis. B.W.  
 L. aspideus. G.W., B.W. 1  
 L. blennius. G.W., B.W.  
 L. deliciosus. G.W., Bk.W.  
 L. quietus. G.W., B.W.  
 L. rufus. Bk.W.  
 L. glyciosmus. Burnsall.  
 L. subdulcis. G.W., B.W.  
 L. subumbonatus. B.W.  
 L. minimus. B.W.  
 L. obliquus. G.W.

Nearly all the species of Lactarius grow on the ground in or near to woods.

- Russula rosacea. B.W., Bk.W.  
 R. purpurea. B.W.  
 R. rubra. G.W.  
 R. cyanoxantha. G.W.  
 R. heterophylla. B.W.  
 R. foetens. G.W., B.W.  
 R. emetica. G.W., B.W.  
 R. ochroleuca. G.W., B.W., Bk.W.  
 R. granulata. G.W., B.W.  
 R. puellaris. G.W.  
 R. ochracea. B.W.  
 R. lutea. B.W.

### *Cantharelleæ.*

- Cantharellus cibarius. B.W.  
 C. carbonarius. G.W.  
 On rotten wood.

### *Marasmiæ.*

- Marasmius peronatus. G.W., B.W.  
 On dead leaves.  
 M. oreades. G.  
 In pasture.  
 M. lagopinus. Bk.  
 On dead branch.  
 M. ramealis. B.W.  
 On fallen branches.

- M. rotula. B.W.  
 On dead twigs.  
 M. androsaceus.  
 Among dead leaves and twigs.

### *POLYPORACEÆ.*

- Boletus flavus. G.W.  
 B. chrysenteron. B.W.  
 B. subtomentosus. G.W., B.W.  
 B. badius. B.W.  
 B. scaber. B.W.  
 Polyporus squamosus. G.W.,  
 B.W. On stumps.  
 P. nidulans.  
 On a pole down Elbolton Cave,  
 Thorpe, near Grassington.  
 P. betulinus. G.W., B.W., Bk.W.  
 On birch.  
 P. adustus. G.W.  
 On tree stump.  
 P. chioneus. B.W.  
 On stump.  
 P. cæsius. Bk.W.  
 On dead pine trunk.  
 P. fragilis. Bk.W.  
 On stump.  
 Polystictus versicolor. G.W.,  
 Bk.W. On stumps.  
 P. radiatus. Bk.W.  
 P. hirsutus. G.W.  
 P. velutinus. On stump, G.W.  
 on dead birch log Bk.W.  
 Fomes fomentarius. B.W.  
 On stump.  
 F. annosus. G.W.  
 On pine stump.  
 Poria vaporaria. G.W.  
 On dead, fallen branches.

### *HYDNACEÆ.*

- Hydnum repandum. G.W., B.W.  
 On the ground.  
 H. argutum. G.W.  
 On decaying wood.  
 Grandinia granulosa. G.W., Bk.W.  
 On rotten wood.

### *THELEPHORACEÆ.*

- Craterellus cornucopioides. B.W.  
 Stereum hirsutum. G.W., B.W.,  
 Bk.W.  
 On dead wood.  
 S. sanguinolentum. B.W.  
 Corticium calceum. G.W.  
 C. lacteum. G.W.  
 C. sanguineum. G.W.  
 The last four on dead branches.



**CLAVARIACEÆ.**

- Clavaria cinerea.* G.W.  
On soil.  
*C. cristata.* G.W., B.W.  
On soil.  
*C. rugosa.* G.W.  
Among grass.  
*C. fusiformis.* G.W.  
Among grass.  
*C. vermicularis.* G.  
In pastures.  
*C. fumosa.* G.W., B.W.  
In pastures.  
*Typhula erythropus.* B.W.  
On dead herbaceous stems.  
*T. muscicola.* G.W.  
Among moss.

**TREMELLACEÆ.**

- Dacryomyces stillatus.* G.W.  
On stump.  
*Calocera viscosa.* On stumps, common G.W., B.W., Bk.W.  
*C. cornea.* G.W.  
On stump.

**UREDINACEÆ.**

- Melampsora epitea.* G.W.  
On living leaves of *Salix viminalis*.  
*Coleosporium sonchi.* B.W., Burn-  
sall, Bk.  
Æcidiospores on butter-bur.  
*C. campanulæ.* G.W.  
On *Campanula rotundifolia*.  
*Uromyces fabæ.* G.  
On leaves of beans in the Hotel  
garden.  
*U. valerianæ.* G.W.  
On *Valeriana officinalis*.  
*U. alchemillæ.* G.W.  
On *Alchemilla vulgaris*. Both  
stages.  
*U. rumicis.* Threshfield.  
On *Rumex acetosa*.  
*Puccinia variabilis.* Burnsall, B.W.  
On dandelion leaves.  
*P. violæ.* G.W.  
On leaves of *Viola* sp.  
*P. pimpinellæ.* G.W.  
On *Myrrhis odorata*.  
*P. menthæ.* B.W.  
On cultivated mint, lodge garden.  
*P. saniculæ.* G.W.  
On *Sanicula europæa*.  
*P. rubigo-vera.* B.W.  
On *Holcus mollis*.

- P. poarum.* Burnsall.  
Æcidiospores on *Tussilago far-  
fara*.  
*P. hieracii.* G.W.  
On *Hypochæris radicata*, and on  
*Carduus heterophyllus*.  
*P. centaureæ.* G.W.  
On *Centaurea nigra*.  
*P. taraxaci.* Burnsall.  
On dandelion leaves.  
*P. oblongata.* B.W.  
On *Luzula pilosa*, and *Luzula  
sylvatica*.  
*P. betonicæ.* G.W.  
On *Stachys Betonica*.  
*P. Andersoni.* G.W.  
On *Carduus heterophyllus*.  
*P. glomerata.* Bk.  
On *Senecio Jacobæa*.  
*P. veronicæ.* B.W.  
On *Veronica montana*.  
*Xenodochus carbonarius.* G.W.  
Common.  
On *Poterium officinale*.  
*Triphragmium ulmaricæ.* G.W.  
On *Spiræa Ulmaria*.  
*Uredo polypodii.* Bk.W.  
On *Cystopteris fragilis*.

**USTILAGINACEÆ.**

- Ustilago violacea.* B.W.  
On the anthers of *Lychnis  
diurna*.

**ASCOMYCETES.****PYRENOMYCETES.**

- Hypocrea rufa.* G.W., Bk.W.  
On rotting wood.  
*Nectria cinnabarina.* G.W., B.W.,  
Bk.W.  
On dead branch.  
*Hypomyces rossellus.* Bk.W.  
On decaying *Stereum*.  
*Dialonectria sanguinea.* B.W.  
On dead branch.  
*Xylaria polymorpha.* B.W.  
On stump.  
*X. hypoxylon.* G.W., Bk.W.  
On stumps.  
*Hypoxylon fuscum.* G.W.  
On dead hazel branches.  
*H. atropurpureum.* Bk.W.  
On decorticated wood.  
*Rhytisma acerinum.* G.W., B.W.  
Common on leaves of sycamore.  
*Diatrype disciformis.* G.W., B.W.  
On dead beech branches.

- Eutypa lata*. G.W.  
On dead sticks.
- Lasiosphæria ovina*. G.W., Bk.W.  
On rotten wood.
- Melanomma pulvis-pyrius*. Bk.W.  
On fallen decorticated branches.
- Metasphæria complanata*. G.W.  
On dead herbaceous stems.
- Heptameria acuta*. G.W.  
On dead stems of nettle.
- Sphærella rumicis*. G., B.W.  
On *Rumex obtusifolius*.
- Sphærotheca castagnei*. = *S. humuli*.  
G.  
On living leaves of garden peas  
in the Hotel garden, on  
*Epilobium obscurum*.
- Erysiphe communis* = *E. polygon*  
D.C. On *Hypericum hirsutum*.  
G.W.
- E. galeopsidis*. G.W.  
On *Stachys sylvatica*.
- E. cichoracearum*. G.W., Bk.W.  
On *Arctium*.

### DISCOMYCETES.

- Vibrissea truncorum*. Bk.W.  
On dead branch in water.
- Peziza vesiculosa*. G.W., B.W.,  
Bk.W.
- P. ochracea*. Bk.W.
- P. saniosa*. G.W.
- Otidea alutacea*. Bk.W.  
The last three on bare soil.
- Humaria granulata*.  
Very common on cow dung in all  
the localities visited.
- Lachnea setosa*. Bk.W.  
On rotten wood.
- L. scutellata*. B.W.  
On rotting wood in water course.
- L. umbrorum*. G.W., Bk.W.  
On damp ground.
- L. hemispherica*. G.W.  
On soil.
- Sphærospora trechispora*. B.W.  
On bare soil.
- Dasyscypha virginea*. G.W., Bk.W.  
On decaying twigs, and on dead  
stems of some Umbelliferous  
plant.
- D. nivea*. Bk.W.  
On old tree root.
- D. hyalina*. B.W.  
On dead wood.
- D. calycina*. G.W.  
Parasitic on larch trees.

- Chlorosplenium æruginosum*. G.W.,  
Bk.W.  
On dead ash branches.
- Ciboria luteovirescens*. G.W.  
On dead wood.
- Helotium claroflavum*. Bk.W.  
On rotting, partially moss-  
covered branches.
- H. imberbe*. Bk.W.
- H. virgultorum*. G.W.
- H. calyculus*. Bk.W.  
The last three on dead branches.
- H. cyathoidæum*. G.W., B.W.,  
Bk.W.  
On decaying herbaceous stems.
- H. scutula*. G.W., Bk.W.  
On dead herbaceous stems.
- H. herbarum*. G.W.  
On dead nettle stems.
- H. fagineum*. G.W., B.W., Bk.W.  
On fallen beech mast.
- H. conigenum*. B.W.  
On fallen cones of Scots fir.
- Belonidium Clarkei*. Bk.W.
- B. pruinosum*. G.W.  
On a decaying, effused pyre-  
nomycete, sp. ?, probably  
*Eutypa*.
- Mollisia cinerea*. G.W., B.W., Bk.W.  
On decaying wood.
- Ascobolus furfuraceus*.  
Common on cow dung in all the  
localities visited.
- Orbilia leucostigma*. B.W., Bk.W.  
On dead wood.  
Var. *xanthostigma*. Bk.W.
- O. auricolor*. B.W.  
On cast bark.
- Coryne urnalis*. G.W.  
On stump.
- Cenangium dryinum*. B.W.  
On fallen oak branch.
- Phacidium multivalve*. G.W.  
On dead holly leaves.

### PHYCOMYCETES.

- Pilobolus crystallinus*. G., Bk.  
On cow and horse dung.
- Spinellus fusiger*. G.  
On the pileus of *Mycena*. sp.
- Phytophthora infestans*. G.  
On stems and leaves of potato.
- Plasmopara pusilla*. G.  
On living leaves of *Geranium*  
*pratense*.
- Empusa muscæ*. G., B.W.  
Not uncommon on dead dip-  
terous flies; best seen when

they had alighted on moist cow dung in shaded places. In many cases the dead flies were so enveloped with the fungus that nothing but the tips of their outstretched wings were visible.

### HYPHOMYCETES.

- Penicillium glaucum*.  
Common on decaying organic substances, including fungi of many kinds, leaves, etc., in all the localities visited.
- Sepedonium chrysospermum*. G., B.W., Bk.W.  
Common on fleshy fungi, especially *Boleti*.
- Cladosporium herbarum*. G.  
On decaying empty pea pod on the ground in the Hotel garden.
- Isaria farinosa*. G.W.  
The conidial condition of *Cordyceps militaris*. On the ground
- Ægerita candida*. G.W.  
On rotten wood.

### MYXOMYCETES.

- Cribraria aurantiaca*. G.W.  
On rotting wood.
- C. rufa*. = *C. rufescens*. G.W.  
On dead wood.

- C. argillacea*. G.W.  
Among rotting leaves, and on a lichen (*Cladonia*).
- Reticularia lycoperdon*. B.W.  
On dead wood.
- Lycogala epidendron*. G.W.  
On dead wood.
- Arcyria punicea*. G.W.  
On rotting wood.
- A. cinerea* = *A. albida*. B.W.  
On rotting wood.
- Trichia varia*. G.W., Bk.W.  
On dead wood.
- Chondrioderma niveum*.  
Var. *deplanatum*.
- C. difforme* = *Didymium difforme*. G.W.  
On decaying herbaceous stem.
- Didymium spumarioides* = *Chondrioderma spumarioides*. G.W.  
On dead beech leaves.
- Craterium confusum* = *C. pedunculatum*. G.W.  
On decaying wood.
- Physarum leucopus*. Bk.W.  
On decaying wood.
- Tilmadoche nutans* = *Physarum nutans*. G.W.  
Var. tending to *genuinum*.  
On ash bark. Bk.W.
- T. mutabilis* Rost. = *Physarum viride* Pers. Var. *luteum*.  
On cast bark. Bk.W.
- Fuligo varians* Rost. = *F. septica* Gmel. Bk.W.  
Among dead leaves.

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and Palæontology of the North of England, 1902-1908.

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Compiled and edited by

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PARTICULARS of papers, etc., omitted from the following lists will be gladly received and included at the commencement of the 1908 Bibliography. Every effort is made, however, to ensure these lists being as complete as possible.

It would render these lists more complete if editors of periodicals, secretaries of societies, and especially authors of papers in local journals, etc., would send copies to the editor at the Museum, Hull. Reprints and authors' separate copies should bear the name of the publication, the number of the volume or part, the *original* paging, and the *actual* date of publication.

As regards dating, we would suggest to editors and secretaries that care be taken to give the actual date of publication on the wrapper of all parts of journals and transactions; there is often difficulty and uncertainty. Bibliographers would greatly appreciate attention to this point.

The Watsonian vice-counties are adopted throughout these bibliographies as more convenient and uniform in extent than the political counties; those comprised within the North of England are the following:—

53, Lincoln S.; 54, Lincoln N.; 56, Notts.; 57, Derby; 58, Cheshire; 59, Lancashire S.; 60, Lancashire W.; 61, York S.E.; 62, York N.E.; 63, York S.W.; 64, York Mid. W.; 65, York N.W.; 66, Durham; 67, Northumberland S.; 68, Cheviotland; 69, Westmorland with Furness and Cartmel; 70, Cumberland; and 71, Isle of Man; with their adjoining seas.

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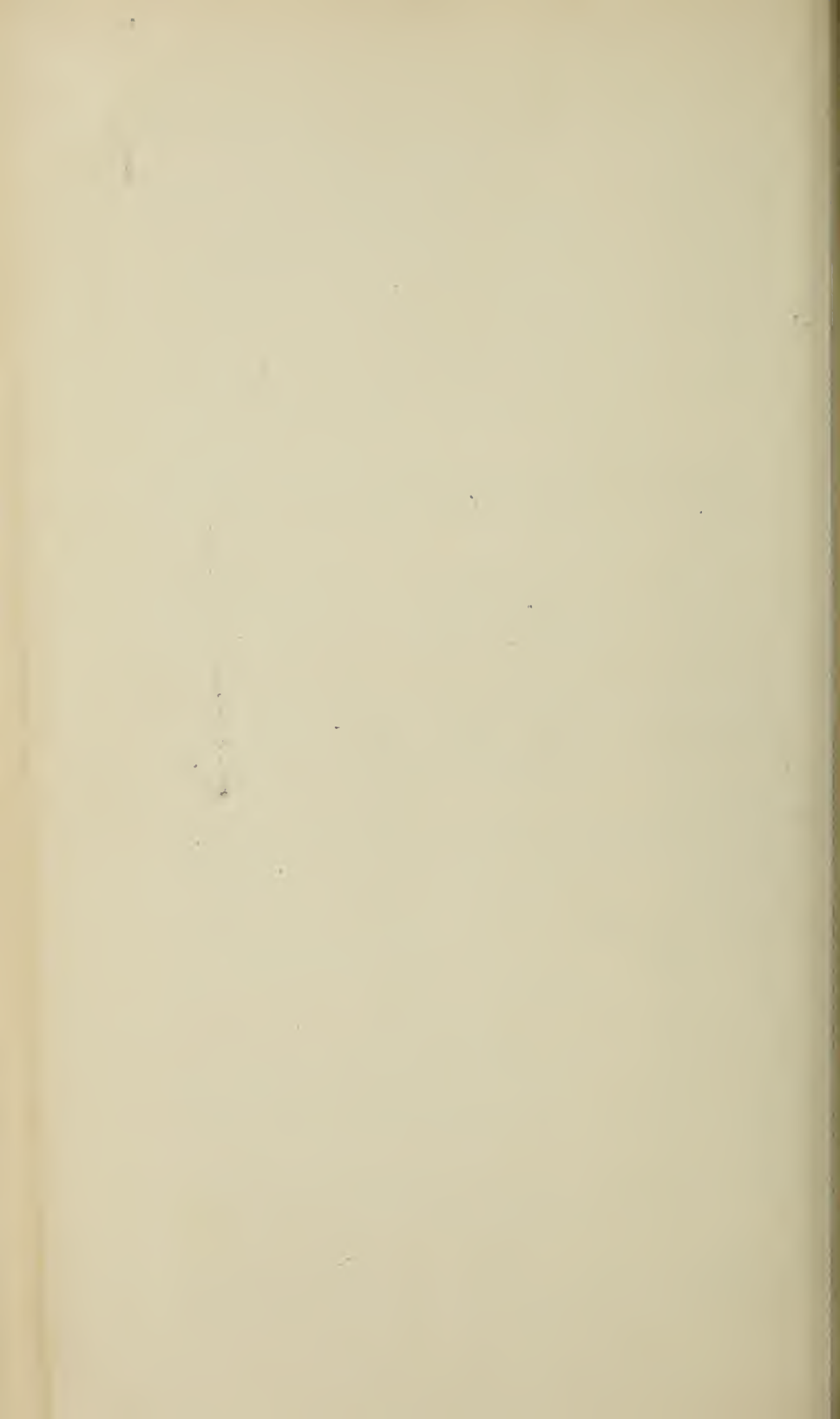
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1905.

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Northumberland, Durham.

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# Yorkshire Naturalists' Union.

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President :

G. W. LAMPLUGH, F.G.S., London.

Divisional Secretary :

R. FORTUNE, F.Z.S., Lindisfarne, Harrogate.

Hon. Secretary :

T. SHEPPARD, F.G.S., Municipal Museum, Hull.

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## THE 186TH MEETING

WILL BE HELD AT

—❧— **RIPON**, —❧—

FOR THE INVESTIGATION OF

**THE VALLEY OF THE SKELL,**

ON

**Saturday, May 6th, 1905.**

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**RAILWAY ARRANGEMENTS.**—Through return tickets at pleasure party rates will be issued at all stations on the G.C., G.N., H. & B., L. & Y., L. & N.W., Midland, and N.E. Railways which have booking arrangements for Ripon to Members and Associates of the Y.N.U. surrendering the Certificate noted below. Tickets taken on Friday, May 5th, will be available for return on Monday, May 8th. Where through bookings are not in operation Members may book to most convenient junction, and re-book to destination; the reduced fares being available for each stage of the journey.

**N.B.**—The Railway Booking Clerks will only grant these reduced fares to Members and Associates producing a Special Certificate signed by the Secretary of the Union. Members and Associates wishing for this Certificate must apply to Mr. Sheppard for it, and must enclose a stamped directed envelope and their current card of membership of the Union, which latter will be returned with the Certificate. At stations on the N.E. Rly. tickets at the reduced fares will be issued on production of the signed card of membership.

**BOOKS AND MAPS.**—The whole area is included in Sheets 61 and 62 of the One-Inch Ordnance Map, which may be obtained geologically coloured. See Davis & Lee's "West Yorkshire," Lee's "Flora of West Yorkshire," and various papers in the "Naturalist."

**THE DISTRICT** to be investigated is practically the whole of the Skell Valley from Ripon, through the grounds of Fountains and Spa Gill.

**ROUTES.**—Members will meet at the Station upon the arrival of 10-37 train from the south, and proceed via Borrage Lane, following the River Skell, through Mackershaw Wood, the grounds of Fountains Abbey, and then into Spa Gill. The Studley Park may also be visited. Mr. B. Smith will act as guide.



Members arriving by later trains may follow the route of the first party, or proceed by one of the conveyances direct to Studley (fares 6d. each, motor bus 9d.), when they can either proceed up the valley into Spa Gill, or down into Mackershaw Woods.

**PERMISSION** to visit his property has been kindly granted by the Rt. Hon. Lord Marquis of Ripon, K.G. Production of the signed card of membership will be necessary to enter Fountains Abbey grounds.

N.B.—Members are requested to take care not to disturb the breeding pheasants.

**GEOLOGY.**—The Geological Section will be officially represented by the Rev. W. Lower Carter, M.A., F.G.S.

Mr. B. M. Smith writes:—The Skell traverses the Magnesian Limestone, which is in evidence at Whitecliffe, where the marble floor of the Skell is distinctly interesting. One peculiarity of this river is that shortly after leaving the lake at Studley the volume of water is suddenly diminished and a full stream becomes at once a rivulet. This has been known for many years, and a former proprietor of Studley built a compensation canal from the lake to below where the water disappears at the “Devil’s Chimneys.” This canal is still in evidence near the lake. Near to Whitecliffe, at “Hell Wath,” a very strong spring, which report credits with the long lost stream, bubbles unceasingly and runs into the Skell close by.

(There is a spring of mild sulphur water in Spa Gill. The Ripon Corporation have recently built a small suite of Baths and are bringing this water from Spa Gill into Ripon to supply the baths.—R. F.)

The late Rev. J. S. Tute, formerly Vicar of Markington, supplied the following for circular of Meeting held at Ripon, March 29th, 1880.—“The Millstone Grit may be studied in the valley of the Skell near Fountains Abbey. There is one series of beds (Cayton Gill group) which are three in number; they may be inspected in a little quarry about half-a-mile west of Fountains on the road to Sawley. The uppermost bed consists of thin flags, abounding with remains of Encrinites. The second contains plentiful casts of Brachiopods, and is called the “Shell Bed.” The lowest is a very hard fine-grained sandstone, mottled with carbonaceous markings, and containing *Bellerophon costatus*. At Cayton Gill only the two upper beds are visible. The fossils found are *Orthis resupinata*, *O. Michelini*, *Productus semireticulatus*, *P. cora*, *P. aculeata*, *Spirifer lineata*, *S. trigonalis*, *S. striata*, *Spiriferina cristata*, *S. octoplicata*, *Streptorhynchus crenistria*, *Arca sp.*, *Strophomena analoga*, *Chonetes Hardrensis*, and *Rhynchonella pleurodon*. Above these beds comes the red grit of the Plumpton series, which further west covers the hills at Brimham and forms Guy’s Cliff; it may be seen in Studley Park.

The Permian beds rest unconformably upon the Plumpton grit. The junction may be seen near Fountains above the cliff of grit, and again at a short distance below Anne Boleyn’s Seat. Many beds are fossiliferous, but in one bed only, near Aldfield, are the fossils worth searching for, and in this they are very rare.”

**BOTANY.**—The Botanical Section will be officially represented.

**Flowering Plants.**—Mr. B. M. Smith writes:—The Skell valley is a delightful botanist’s paradise. Formed by two streamlets, one running from Hungate, the other from the moors between Grantley and Pateley Bridge, the Skell enters the park at Grantley, where, by means of a specially constructed dam, Sir C. Furness is enabled to generate the electricity for supplying the hall and drive in connection with Grantley Hall. Opposite the hall is a huge hill which for long defied all efforts to clothe it with verdure, until a shot gun was charged with various seeds and the desired verdant bank secured. Leaving Grantley Hall, the Skell runs into Aldfield Wood and Spa Gill. A mild sulphur water from this part has lately been conveyed to Ripon, and visions of an inland watering place are occupying the minds of the civic authorities. Numerous ferns and flowers abound, notably *Lanium galeobdolon*, *Mercurialis perennis*, both *Chrysospleniums*, *Paris quadrifolia*, several shield ferns, and in the boggy land near Spa House, many marsh plants. In Aldfield Wood have been found the Oak, Beech, Lemon scented, Broad Shield, Prickly Shield, and Hart’s tongue (crested variety) Ferns, while *Epipactis latifolia* and *E. palustris* are sometimes fairly abundant. Entering the grounds of Fountains

Abbey the botanist should see several wall loving ferns, the wild pink, *Mimulus*, sloe, water lily (yellow), daffodil, etc. A few bushes of *Atropa belladonna* have been carefully preserved by Lord Ripon for many years in a secluded spot away from the public eye. A few years ago the water soldier and white water lily were planted in the ponds opposite the Temple of Piety as the result of a V.N.U. excursion, but I don't know if they still grow there. It is a place where many rarities have been found at one time or another. In the Mackershaw Woods the lily-of-the-valley may be found, while in the pastures beyond, Moonwort, Adder's tongue, and Bird's nest, *Neottia*, have been found. On Whitcliffe the spindle tree grows, while on Redbank (until lately the race course) *Gagea lutea* revels. Nothing of much note occurs as the river winds its way through the city, ultimately emptying itself into the Ure at Fishergreen.

The following have been recorded :—*Thalictrum minus* and *T. flavum*, *Adonis*, *Trollius*, *Helleborus viridis*, *Aconitum napellus*, *Actæa spicata*, *Chelidonium majus*, *Corydalis claviculata*, *Reseda lutea* and *luteola*, 4 *Hypericums*, 10 *Geraniums*, *Ononis arvensis*, *Spirea ulmaria* and *S. filipendula*, *Potentilla Comarum*, *Parnassia palustris*, *Drosera rotundifolia*, *Monotropa Hypopitys*, *Hottonia palustris*, *Pinguicula vulgaris*, *Androsace sempervirens*, *Hyoscyamus niger*, *Ophrys apifera*, and *O. muscifera*.

Dr. Wm. G. Smith writes :—The trees of Studley Park are worthy of attention. One may find here good examples of almost all the woodland trees grown in Britain, Old Chesnut, Oak, Ash, Spruce, Hemlock, Fir, Scots Pine, etc. The route is well suited for observations on botanical survey.

**Mosses and Hepatics.**—The Yorkshire Bryological Committee will be officially represented.

On the route mentioned, along the Skell beck, are likely to be found the following Cryptogams :—*Phascum serratum*, *P. subulatum*, *P. rectum*, *P. cuspidatum*, *Gymnostomum conicum*, *G. Heinii*, *G. viridissimum*, *G. microstomum*, *Anectangium ciliatum*, *Splachnum ampullaceum*, *Encalypta Starkeana*, *Weissia cirrhata*, *W. contraversa*, *Grimmia apocarpa*, *Trichostomum aciculare*, *T. polyphyllum*, *Dicranium varium*, *D. pellucidum*, *D. taxifolium*, *D. bryoides*, *Tortula rigida*, *T. enervis*, *Cnclidotus fontinaloides*, *Funaria Muhlenbergii*, *Bryum punctatum*, *B. hornum*, *B. pyriforme*, *B. intermedium*, *B. rostratum*, *B. bicolor*, *Neckera pumila*, *N. crispata*, *N. complanata*, *Leskea polycarpa*, *Hypnum cardifolium*, *H. confertum*, *H. fluviatile*, *Jungermannia asplenoides*, *J. bidentata*, *J. bicuspidata*, *Homalia trichomanoides*, *Madothea platyphylla*, *Chyloscyphus polyanthus*, and *Pottia truncata*.

**Fungi.**—The Yorkshire Mycological Committee will be officially represented by Mr. Chas. Crossland, F.L.S.

Mr. C. Crossland writes :—In September, 1881, was held the first organised Yorkshire Fungus Foray, with Leeds as centre. One party visited the Studley Royal district, and met with many interesting species. At the same time of the year, which may be called "the height of the season" for fungi, the Skell valley, with Mackershaw wood and Fountains Abbey grounds, may have proved equally prolific and interesting. Still, even at this early date for fungi generally, many spring species may be found by careful investigation, such, for instance, as *Morchella esculenta*, *Mitrophora semilibera*, and others. *Gyromitra esculenta*, which up to the present has only two Yorkshire records—S.W., Salterhebble, near Halifax, and Mid.W., Gill Grange,—should be looked for.

**VERTEBRATE ZOOLOGY.**—The Vertebrate Section will be officially represented by Mr. Riley Fortune, F.Z.S.

**Mammalia.**—Mr. R. Fortune writes :—The following may be met with : Otter, Badger, Fox, Weasel, Stoat, Great Noctule and Pipistrelle Bats (other bats may be looked for, as this branch has not been worked), Hedgehog, Hare, Rabbit, Water Vole, Long Tailed Field Mouse, Field Vole, Bank Vole. Studley Park contains fine herds of Red and Fallow Deer.

**Birds.**—Mr. R. Fortune writes :—The Skell valley abounds with bird life, and amongst the rest of feathered inhabitants the following interesting species may be found nesting : Kestrel, Sparrow Hawk, Tawny, Barn, and Long-eared Owls,

Dipper, Redstart, Grasshopper Warbler, Lesser Whitethroat, Blackcap and Garden Warblers, Gold Crest, Nut Hatch, Grey, Pied, and Yellow Wagtails, Tree Sparrow, Bullfinch, Green and Great Spotted Woodpeckers, Kingfisher, Spotted and Pied Flycatchers, Little Grebe, etc. The Studley estate is noted for the large numbers of Pheasants bagged during the shooting season.

**Reptiles and Amphibia.**—Mr. R. Fortune writes :—Have noted the following: Toad, Frog, Great Crested and Smooth Newts, Adder, Slow Worm, and common Lizard.

**Fishes.**—Mr. Riley Fortune writes that the Skell is very prolific in fish life. The following species may be noted: Trout, Grayling, Pike, Dace, Chub, Roach, Perch, Bullhead, Minnow, Loach, and Eels.

**CONCHOLOGY.**—The Conchological section will be officially represented.

**Land and Fresh Water Mollusca.**—The following land and fresh water mollusca may be found in the neighbourhood: *Dreissena polymorpha*, *Valvata piscinalis*, *Limnaea auriculata*, and *Unio pictorum*. *Ancylus fluviatilis*, *Neritina fluviatilis*, and *Cyclas cornea*. *Limnaea glabra*, *L. palustris*, *L. stagnalis*, *L. truncatulus*, *Succinea putris*, *S. pfeifferi*, *Viletia lacustris*, *Aplexus hypnorum*, *Physa fontinalis*, *Bythinia tentaculata*, *Planorbis marginatus*, *P. spirorbis*, *P. corneus*, *P. albus*, *P. contortus*, *P. glaber*, *P. imbricatus*, and *Cyclas lacustris*. *Helix caperta*, *H. arbustorum*, *H. rufescens*, *H. lapicida*, *H. ericetorum*, *H. fulva*, *H. cantiana*, *H. pisana*, *H. pulchella*, *H. hispida*, *H. depilata*, *H. virgata*, *H. fusca*, *H. granulata*, *H. pygmaea*, *H. lamellata*, *H. aculeata*, *Zonites alliarius*, *Z. cellarius*, *Z. nitidulus*, *Z. radiatulus*, *Z. rotundatus*, *Z. lucidus*, *Z. crystallinus*, *Vertigo pygmaea*, *V. palustris*, *Balea perversa*, *Zua lubrica*, *Bulimus obscurus*, *Azeca tridens*, *Clausilia bidens*, *C. nigricans*, *C. rugosa* (var. *dubia*), *Pupa Anglica*, *P. umbilicata*, *P. marginata*, and *Acme cineata*.

**ENTOMOLOGY.**—The Entomological Section will be officially represented by Mr. J. W. Carter, F.E.S.

**Lepidoptera.**—Mr. C. Chapman reports the occurrence of the large white, orange tip, brimstone, clouded yellow, pearl bordered, fritillary, small tortoiseshell, red admiral, peacock, painted lady, small meadow brown, ringlet, small heath, large copper, small copper.

**Coleoptera.**—The Yorkshire Coleoptera Committee will be officially represented by Mr. M. L. Thompson, F.E.S.

Mr. M. L. Thompson writes :—Ripon, with Studley, has been rendered classic ground to the coleopterist through the labours of E. A. Waterhouse. Amongst the rarer beetles which Mr. Waterhouse has recorded for the locality the following may be mentioned: *Trechus rubens*, *Anchomenus thoreyi*, *Bembidium quinquestriatum*, *Badister sodalis*, *Alcochana ruficornis*, *Homalota excellens*, *H. hepatica*, *Megacrenus inclinans*, *Quedius scitus*, two *umbrinus*, *Philanthus fulvipes*, *Anthophagus alpinus*, *Coryphium angusticollis*, *Pseudopsis sulcata*, *Leptimus testaceus*, *Silpha opaca*, *Choleva longula*, *C. caracina*, *Endomychus coccineus*, *Meligethes symphyti*, *Tisessias sericea*, *Cryptohypnus dermestoides*, *Rhagonycha unicolor*, *Malthinus frontalis*, *Haplocnemus nigricornis*, *Apteropoda globosa*, *Microzoum tibiale*, *Rhinomacer attelaboïdes*, *Attelabus curculionoides*, *Orobittis cyaneus*.

A Collection of Coleoptera, made by Lord Ripon, is in the Ripon Town Hall, where may be seen the contents of the late Museum.

**Dark Rooms.**—Mr. H. Bulmer Rudd, Westgate, Ripon, and at the ruins, Fountains.

#### PROGRAMME OF MEETINGS.—

|                               |  |
|-------------------------------|--|
| 4-15 p.m.—Meat Tea, 1/6 each. | ) At Mr. Gill's, Canal Gates, at the entrance<br>to Fountains Abbey Grounds. |
| 5-0 p.m.—Sectional Meeting.   |  |
| 5-15 p.m.—General Meeting.    |  |

Waggonettes will convey the party to the station. Fare, 6d. each.

Trains for the South leave 6-19, 6-56, 8-8, 9-29.

„ „ North „ 5-44, 7-14, 8-59, 10-20.

In order that an early account of the excursion may appear in the "Naturalist," notes and reports should be forwarded before May 14th, to the Secretary of the V.N.U., the Museum, Hull.



# Yorkshire Naturalists' Union.

## President :

G. W. LAMPLUGH, F.G.S., London.

## Ex-Presidents :

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 H. CLIFTON SORBY, LL.D., F.R.S., etc., Sheffield.  
 JOHN GILBERT BAKER, F.R.S., F.L.S., Kew.  
 Rt. Hon. LORD WALSHINGHAM, M.A., F.R.S., Thetford, Norfolk.  
 Rev. W. H. DALLINGER, LL.D., F.R.S., etc., London.  
 Sir RALPH PAYNE GALLWEY, Bart., M.B.O.U., Thirkleby Park.  
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 Prof. PERCY F. KENDALL, F.G.S., Leeds.  
 W. DENISON ROEBUCK, F.L.S., Leeds.  
 A. H. PAWSON, J.P., F.L.S., Farnley.

## Divisional Secretary :

W. ROBINSON, Greenbank, Sedbergh.

## Hon. Secretary :

T. SHEPPARD, F.G.S., Municipal Museum, Hull.

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# THE 187TH MEETING

WILL BE HELD AT

# ASKRIGG,

FOR THE INVESTIGATION OF

**WHITFIELD GILL, RAYDALE, AND  
SEMMEWATER,**

ON

**Whit-Week End, June 10th==12th, 1905.**

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**RAILWAY ARRANGEMENTS.**—Through return tickets at pleasure party rates will be issued at all stations on the G.C., G.N., H. & B., L. & Y., L. & N.W., Midland, and N.E. Railways which have booking arrangements for Askrigg to Members and Associates of the Y.N.U. surrendering the Certificate noted below. Tickets taken on Friday, June 9th, will be available for return on Tuesday, June 13th. Where through bookings are not in operation Members may book to most convenient junction, and re-book to destination; the reduced fares being available for each stage of the journey.



**N.B.—The Railway Booking Clerks will only grant these reduced fares to Members and Associates producing a Special Certificate signed by the Secretary of the Union. Members and Associates wishing for this Certificate must apply to Mr. Sheppard for it, and must enclose a stamped directed envelope and their current card of membership of the Union, which latter will be returned with the Certificate. At stations on the N.E. Rly. tickets at the reduced fares will be issued on production of the signed card of membership.**

**WEEK-END HEADQUARTERS.**—At the King's Arms, Askrigg. Terms, 8/- per day for bed, breakfast, sandwiches for lunch, and dinner, including attendance. The accommodation being limited, and the hotels full at Whitsuntide, rooms should be ordered without delay.

**BOOKS AND MAPS.**—The whole area is included in Sheets 40 and 50 (formerly 97 N.W. and 97 S.W.) of the one inch Survey. Both sheets are to be had geologically coloured. Vol. II, of Phillip's classical work on the "Geology of Yorkshire," should be consulted for detailed particulars, diagrams, and sections of the "Yoredale Series of Rocks" of the district, Phillips having adopted the upper end of Wensleydale as a general standard of reference for this interesting group. Dr. Percival compiled a Flora of Wensleydale for the "Naturalist" in 1888, afterwards separately published. Baker's "North Yorkshire" contains geological and botanical information. A list of Wensleydale Birds, by E. Chapman, will be found in the "Naturalist" for 1886. Mr. W. Dennison Roebuck gave a resumé of his Field Notes on Conchology in the same publication for 1883. Canon Whaley's History of Askrigg and Bainbridge may be usefully referred to, and so also may Mr. Speight's History of "Richmondshire." The Excursion Circular of the Meeting at Hawes in June, 1884, when much of the same ground was gone over, should be read. Copies may be obtained from the Secretary, price 2d. each. Reprints of the "Flora of Wensleydale" can be had from the Secretary at 6d. each.

**ROUTE FOR SATURDAY.**—All parties start from Askrigg station, at 11-30 a.m., for the investigation of Whitfield Gill, the waterfalls (69 and 50 feet), and the fells beyond.

**MONDAY'S ROUTE.**—Raydale side and Semmerwater. Conveyances at 2/- per head will be provided for those who desire to ride the intervening four miles.

**PERMISSION** to visit their estates has been kindly granted by Mr. J. E. Riley, Mr. T. Stewart, and Mr. Fothergill.

It being the nesting season, members are particularly requested not to disturb the pheasants, grouse, and other game, especially in the woods and grounds about Semmerwater.

Mr. W. Balderston and Mr. J. E. Lodge, of Yorebridge House, who are acquainted with the District, will be present to assist in the Excursions.

**GEOLOGY.**—The Geological Section will be officially represented by its Secretary, Mr. Cosmo Johns, F.G.S., who writes:—To Yorkshire geologists no district should be more interesting than that of the classic Yoredales. The interest, too, has not ceased, for there yet remains much to be done towards determining the character and sequence of the vast series of earth movements which, commencing towards the close of the Silurian period, culminated in the Carboniferous, and ultimately decided the present physical geography of Yorkshire. The conclusion of Mr. W. Tiddeman that the Craven fault was progressive and in operation during the Carboniferous period indicates the lines on which the investigation should be made. It was owing to this differential subsidence that the striking difference in the *facies* of the Carboniferous rocks north and south of the Craven fault is due. At Askrigg we are in a district that was relatively stable. A gently intermittent subsidence led to the deposition of the alternating beds of limestone, shale, and sandstone which are represented further south by the massive limestone of Derbyshire. The increasing importance of Dynamical Geology should not be overlooked, and it is not impossible that the evidence furnished in the north will supply the key to the

obscure problem of the movements that determined the boundary of the Upper Carboniferous rocks in the southern part of the county. Recent evidence has rather shaken the older view that those movements were post-Carboniferous.

Geologists will have a rare treat in examining Mill Gill. This is the section which Prof. Phillips selected for his typical Yoredale series in 1835. It contains all the known Yoredale fossils. The Boulder Committee will have some fine sections to examine.

**BOTANY.**—The Botanical Section will be officially represented by Mr. A. H. Pawson, J.P., F.L.S.

Mr. J. Hartshorn writes:—Given fine weather the botanists will find much to interest them. The natural wood under Whitfield Crag is generally considered one of the highest in the county, whilst a solitary Juniper Bush (now decadent) near Askrigg station is one of the very few specimens known in Wensleydale. An excursion not to be omitted is one to Ellerbeck, about 2½ miles east of Askrigg. Here *Armeria maritima* abounds and *Thlaspi occitanum* and *Ophrys muscifera* may be found. Butterwort and Scurvey Grass are also very plentiful, and *Primula farinosa* is a favourite much gathered in the rabbit warren adjoining. The following are perhaps the most interesting plants recorded for the district to be investigated: *Actaea spicata*, *Draba incana*, *Viola lutea*, *Stellaria nemorum*, *Rhamnus catharticus*, *Vicia sylvatica*, *Potentilla verna*, *P. palustris*, *Saxifraga aizoides*, *S. hypnoides*, *Sedum rupestre*, *Drosera rotundifolia*, *Hippuris vulgaris*, *Crepis succisefolia*, *Hieracium crocatum*, *H. prenanthoides*, *Pyrola minor*, *Utricularia minor*, *Armeria maritima*, *Primula farinosa*, *Rumex domesticus*, *Juniperus communis*, *Hubenaria albida*, *H. chlorantha*, *Listera cordata*, *Paris quadrifolia*, *Elisma natans*, *Potamogeton pectinatus*.

**Mosses and Hepatics.**—The Yorkshire Bryological Committee will be officially represented.

**Fungi.**—The Yorkshire Mycological Committee will be officially represented by Mr. Chas. Crossland, F.L.S.

There are no records of Fungi for this district. The nearest locality which has been investigated is Langstrothdale in Mid-W. about 1890, when Rev. C. H. B. Woodd recorded many uncommon species.

**BOTANICAL SURVEY COMMITTEE.**—A survey of some area will be carried out during this meeting. Arrangements will be made, of which members will receive notice. Others wishing to join in survey work are invited, and may join the party at Askrigg on Saturday morning.

**VERTEBRATE ZOOLOGY.**—The Vertebrate Section will be officially represented.

**Mammalia.**—Foxes are numerous, and Badgers rare. Otters are not uncommon in the streams. Stoats, Weasels, Hedgehogs, Bank Vole, Field Vole, Water Vole, Squirrel, Dormouse, Longtailed Field Mouse, Longeared Bat, Noctule, Pipistrelle, and Mole also occur.

**Birds.**—Mr. J. G. Lodge writes:—The birds found in the district include the Kestrel, Sparrow Hawk, Buzzard, Peregrine, Grey Crow, Carrion Crow, Tawny, Barn and Little Eared Owls, Redshank, Heron, Sandpipers, Dipper, Coot, Waterhen, Dabchick, Kingfisher, Solitary, Common and Jack Snipe, Curlew, Golden and Green Plovers, Grouse, Blackgame, Redstart, Warblers, Whitethroat, Wagtails, Bullfinch, Flycatcher, Waxwing, Crossbill, etc. In the winter time the Lake is frequented by many water fowl, Ducks, Geese, and Swans having been shot there. About twenty-five years since a pair of black-headed gulls came into the Valley, and every year since have come in March in increasing numbers, going away in November.

**Fishes and Amphibia.**—Mr. J. Skidmore writes that the following are found in the waters in the neighbourhood of Askrigg: Trout, Grayling, Eels, Bream, Rudd or Redeye, Minnows, Stone Loach, Miller's Thumb or Bullhead, Newts.

**CONCHOLOGY.**—The Conchological section will be officially represented by Mr. J. E. Crowther, who writes:—In the "Naturalist," vol. viii, 1882-3, are notes on the Mollusca of Upper Wensleydale, which include fifty species. The most interesting of these are perhaps *Pisidium amnicum*, *Anadonta anatina*, *Planorbis glaber*, *Physa hypnorum*, *Limnaea glabra*, *Limax arborum*, *Zonites rogersi*, *Z. radiatulus*, *Z. fulvus*, *Helix aculeata*, *H. nemoralis*, *H. hortensis*, *H. arbutorum*, the three last in great variety, *H. ericetorum*, *H. costata*, *H. lapicida*, *Vertigo pygmaea*, *Balea perversa*, *Clansilia cravenensis*, *Azeca tridens*, and other commoner species. Many of these were found on the occasion of the Union's visit to Hawes in June, 1884, when *Pupa marginata* was added to the list.

**Land and Fresh Water Mollusca.**—Mr. T. Castle writes:—*Anadonta anatina* is abundant in Lake Semmerwater, and *Planorbis albus* and *P. glaber* have occurred at Whitfield Gill, a rich collecting ground. *Limnaea glabra*, *P. carinatus*, and *Physa hypnorum* have been found at Birk Rigg, three miles from Hawes. For Land Shells Whitfield Gill is a very productive spot, with its primeval woodland and diversified geology. *C. tridens*, *H. aculeata*, *H. sericea*, *H. fulvus*, and many other species occur there and at Aysgarth. At Castle Bolton numerous lime-stone-loving forms may be found, as *H. ericetorum*, *H. hispida*, and *H. caperata*. The characteristic mountain species, *Balea perversa*, *H. rupestris*, *C. dubia* occur everywhere plentifully, and the larger Helices, *H. hortensis*, *H. arbutorum*, and *H. nemoralis*, with their varieties, are also abundant.

**ENTOMOLOGY.**—The Entomological Section will be officially represented.

**Lepidoptera.**—Mr. G. T. Porritt writes:—But little has been done in the neighbourhood entomologically, but when properly worked it is sure to prove rich in good species. The local *Eupithecia fraxinalis* is common in the district and may probably be found sitting on the ash trunks, or beaten from the lower branches. A beautiful greenish form of *Acronycta ligustri* is also common and may be detected by sharp eyes at rest on ash trunks, or still more likely, if sugared for in the evening. *Proeris geryon* and *Selenia lunaria* occur at Muker, and most likely also in the immediate district of the excursion.

**Coleoptera.**—The Yorkshire Coleoptera Committee will be officially represented by Mr. E. G. Bayford, who writes:—There does not appear to be any records for the immediate locality, but the Leyburn district, lower down the valley, has furnished the following, amongst commoner species: *Leistus rufescens*, *Badister bipustulatus*, *Stomis pumicatus*, *Patrobis excavatus*, *Silpha atrata*, *Cryptohypnus riparius*, *Athous niger*, *Rhagonycha testacea*, *Dascillus cervinus*, *Hydrocyphon deflexicollis*, *Longitarsus membranaceus*, *L. Jacobae*, *Psylliodes napi*, *Sphaeroderma cardui*, *Apteropeda orbiculata*, *Cistela murina*, *Dorytomus tortrix*. Special attention may be drawn to *Dianous corulescens*, which uncommon species has been found in some numbers on the under side of large stones partially covering the small becks.

**PROGRAMME OF MEETINGS.**—Monday.

|                            |                                |
|----------------------------|--------------------------------|
| 5 p.m.—Meat Tea, 1/9 each. | } At the King's Arms, Askrigg. |
| 6 p.m.—Sectional Meeting.  |                                |
| 6-30 p.m.—General Meeting. |                                |

Train for Northallerton and York leaves at 6-47 p.m.

Trains for Hawes Junction and Leeds leave at 5-27 and 7-59 p.m.

An address on the History and Archæology of the District will be given by Mr. W. Home, F.C.S., on the Saturday night's meeting; and Mr. J. Hartshorn will give a lecture on the Botany of the District.

In order that an early account of the excursion may appear in the "Naturalist," notes and reports should be forwarded before July 16th, to the Secretary of the Y.N.U., the Museum, Hull.



# Yorkshire 'Naturalists' Union.

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## Hon. Secretary :

T. SHEPPARD, F.G.S., Municipal Museum, Hull.

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## THE 188TH MEETING

WILL BE HELD AT

# LOFTUS,

FOR THE INVESTIGATION OF

## The Kilton Valley and the Sea Coast,

FROM

## July 8th to July 10th, 1905.

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**RAILWAY ARRANGEMENTS.**—Through return tickets at pleasure party rates will be issued at all stations on the G.C., G.N., H. & B., L. & Y., L. & N.W., Midland, and N.E. Railways which have booking arrangements for Loftus to Members and Associates of the Y.N.U. surrendering the Certificate noted below. Tickets taken on Friday, July 7th, will be available for return on Tuesday, July 11th. Where through bookings are not in operation Members may book to most convenient junction, and re-book to destination; the reduced fares being available for each stage of the journey.



**N.B.—The Railway Booking Clerks will only grant these reduced fares to Members and Associates producing a Special Certificate signed by the Secretary of the Union. Members and Associates wishing for this Certificate must apply to Mr. Sheppard for it, and must enclose a stamped directed envelope and their current card of membership of the Union, which latter will be returned with the Certificate. At stations on the N.E. Rly. tickets at the reduced fares will be issued on production of the signed card of membership.**

**BOOKS AND MAPS.**—The district is included in Sheet XVIII. N.E. (six inches to the mile) and the Sheets N. and S. of the One-Inch Ordnance Map, which may be obtained geologically coloured. Information regarding the botany and geology of the district will be found in "North Yorkshire," by J. G. Baker, F.R.S., F.L.S. (Y.N.U. Trans.); and in "Geological Rambles in East Yorkshire," by T. Sheppard, F.G.S.

**THE DISTRICT** to be investigated is the Sea Coast, consisting of bold headlands between Skinningrove and Staithes, with a rocky beach exposed at half tide, and the Glen through which Kilton Beck and its tributaries run from the Moorlands to Kilton Viaduct.

Members should book for Loftus station if arriving on Friday night. Those travelling on Saturday morning may alight at Skinningrove station by trains due there at 10-47 from Middlesbrough and Saltburn, and join the earlier parties by a short cut to the coast or up the Kilton Glen. Loftus is on the Saltburn and Whitby Railway; for train service see North Eastern Railway Guide.

**ROUTES.**—The geologists arriving on Friday night will start from Loftus and reach the coast at Skinningrove Bay (distance one mile) and proceed along the coast to Staithes if time and tide permit. Those arriving later will alight at Skinningrove station and follow the earlier party. The botanists and members of other sections will start from Loftus and proceed by way of Liverton Mines to Kilton Woods (half-mile). Later arrivals will alight at Skinnington station and drop down into the ravine, following the upward course of the stream until they overtake the earlier party.

Mr. J. J. Burton will accompany the geologists, and Mr. Tom Loftus the botanists and those investigating Kilton Woods.

Kilton Beck and its tributaries have cut very deep ravines from their source in the high moorlands to where they join the sea in Skinningrove Bay. The main streams and the lateral ravines are heavily timbered, and as they are beautifully sheltered vegetation is luxuriant, and they are a happy hunting ground for the naturalist. The ravine is picturesque almost to the romantic. The coast here gives probably the finest section of the Lias to be found anywhere, although the cliffs from being so extremely precipitous are almost inaccessible. The beach is rock strewn and will provide plenty of work for the hammer. On the top of Boulby (or Rockcliffe) there are remains of very extensive alum works and workings.

Members staying the week end may, by the courtesy of the Cargo Fleet Iron Co., Ltd., go over Liverton Ironstone Mines, one of the best equipped mines in Cleveland.

**HEADQUARTERS.**—Golden Lion Hotel, Loftus-in-Cleveland. Those requiring bedroom accommodation should write early to Mr. Nicholson, the proprietor. Terms: bed, breakfast, and dinner, 7/- each. Accommodation may also be had at the Waverley Temperance Hotel, Loftus-in-Cleveland.

**PERMISSION** to visit their properties has been kindly granted by W. H. A. Wharton, Esq., Viscount Downe, and the Marquis of Zetland.

**GEOLOGY.**—The Geological Section will be officially represented by Mr. Cosmo Johns, F.G.S.

Mr. W. Y. Veitch, M.R.C.S., F.G.S., writes:—**KILTON CASTLE AND WOODS.** The surface geology of Kilton and the neighbourhood is of lower oolite, very freely covered with boulder clay. Denudation has varied the scenery and even made romantic the woods and valleys and the site of what remains of Kilton Castle, from which commanding position we are enabled to see the highest cliff headland in England on looking to the east, and turning westward the prominent conical Freeborough Hill marks the highest geological point, it being capped with middle

oolite Kellaways rock. The highest cliff referred to is Rockcliffe, which is 660 feet high, almost perpendicular; it is situate south of Skinningrove Beck, a little more than a mile away. The shore here is tinged with a brick red colour due to the enormous quantity of burnt alum shale cast over the cliff in byegone days, the removal of such shale (*Ammonites communis zone*) making terraces, giving a character to contours of the cliff. A section of this part of the coast gives a key to local geology. Although boulder clay prevails as a local covering, there is none on the top of Rockcliffe. Commencing at the top we have lower oolite, including the dogger, about 140-ft. thick. Alum shale which follows, i.e., *Ammonites communis zone*, 107-ft. thick; jet rock, *Ammonites serpentinus zone*, 47-ft. thick; grey shale, *Ammonites annulatus zone*, 31-ft. thick; Cleveland ironstone beds, *Ammonites spinatus zone*, 56-ft. thick, is here split up into a top block of 3-ft. 2-in., a bottom seam of 2-ft., having between many layers of shale and impure ironstone amounting to 9-ft. 5-in.; the strata bends downward, the ironstone sinking to the level of Skinningrove Beck. Continuing the section down this cliff we have the marlstone series of Phillips: *A. margaritatus zone*, 109-ft.; *A. capricornis zone*, 160-ft. The base is the *A. jamesoni zone*, which can be examined 10 or 12-ft. above sea level. The fallen rocks about here afford a rich field for palaeontological research.

**BOTANY.**—The Botanical Section will be officially represented.

**Flowering Plants.**—Mr. T. Ward writes:—At this time of the year may be found about seventy species of plants in bloom, the most interesting of which are, perhaps, *Cardamine amara*, *Carex pendula*, *Orchis morio*, *Listera ovata*, *Primula elatior*, *Paris quadrifolia*, and *Genista tinctoria*.

**Mosses and Hepatics.**—The Yorkshire Bryological Committee will be officially represented.

**Fungi.**—The Yorkshire Mycological Committee will be officially represented by Mr. C. Crossland, F.L.S.

There are no records of Fungi for either Loftus or Kilton Valley. If the Valley is at all wooded many species will no doubt be found. It is necessary to work up this branch of Botany at the Union meetings as much as possible in order to increase our somewhat scanty knowledge of general distribution.

**VERTEBRATE ZOOLOGY.**—The Vertebrate Section will be officially represented by its secretary, Mr. R. Fortune, F.Z.S.

**Mammalia.**—Mr. Kenneth McLean writes:—The following Mammalia may be observed: Fox, Badger, Weasel, Stoat, Water Vole, etc. A fine specimen of the Otter was taken in the immediate neighbourhood a few months ago. (Another was seen in Liverton Mines water level drift last summer. Mr. W. Sachse writes that he has seen Stoats in the district.—J. J. B.)

**Birds.**—Mr. Kenneth McLean writes:—Both the cliffs and Kilton Valley should prove full of interest to the ornithologist. The Raven and Peregrine Falcon once bred regularly in the cliffs, and may possibly have done so recently; the Cormorant, I believe, still does so; the Kestrel is also a regular breeder there, and numbers of Herring Gulls, Starlings, Jackdaws, Rock Pigeons, Swifts, and Martins rear their broods on the ledges and in the cornices of the towering precipices. In the Kilton Valley many interesting birds may be seen, such as the Gold Crest, Wood Warbler, Long-tailed Tit, Dipper, Kingfisher, Pied, Grey and Yellow Wag-tails, Tree Creeper, Bullfinch, Jay, Magpie, Woodpecker, Barn, Tawny, and Long-eared Owls, Sparrow Hawk, etc. The Stone Chat used to breed (and I have no doubt still does so) near the Waupley Moors, and on the banks facing the sea, near the alum works.

**CONCHOLOGY.**—The Conchological section will be officially represented.

**Land and Freshwater Mollusca.**—Mr. B. Hudson writes:—Kilton and immediate vicinity (exclusive of cliffs on coast).—*Vitina pellucida*, *Helix hispida*, *H. arbustorum*, *H. nemoralis*, *H. lamellata*, *H. caperata* (probably nearer Skinningrove), *H. fusca*, *H. rotundata*, *H. fulva*, *Bulinus obscurus*, *Zonites alliarius*, *Z. cellarius*, *Z. purus*, *Z. radiatulus*, *Z. nitidulus*, *Z. crystallinus*, *Zua lubrica*, *Aecea tridens*, *Pupa umbilicata*, *P. marginata*, *Vertigo edentula*, *Clausilia laminata*, *C. rugosa*, *Limax maximus*, *L. laevis*, *Limax arborum*, *Arion ater*, *A. hortensis*, *Ancylus fluviatilis*, *Lymnea peregra*, *L. truncatula*. These are all I can find,

though, I think I have taken others. I may say that the greater number of the mollusca seem to prefer the outcrop of the strata, particularly the marl shale. From my knowledge of the district, I think it probable that the following will be met with, though, in the few visits I have paid to the glen, I have not taken them:—*Pupa anglica*, *Vertigo substriata*, *V. pusilla*, *Zonites nitidus*, *Balea* and *Helix aculeata*. All these I have taken within a couple of miles, and think that probably they will also occur at Kilton.

Mr. T. A. Lofthouse writes:—The Kilton Woods should prove good collecting grounds for conchologists. Among the species recorded for the district are:—*L. maximus*, *L. marginatus*, *C. lævis*, *V. pellucida*, *H. pura*, *H. crystallina* and *fulva*, *H. aculeata*, *pygmaea*, *fusca*, *granulata*, *arborum*, (*H. lamellata* should occur), *B. obscurus*, *C. laminata*, *A. tridens*, *C. minimus*, etc. There appear to be no records for freshwater shells.

**ENTOMOLOGY.**—The Entomological Section will be officially represented.

**Lepidoptera.**—Mr. W. Sachse writes:—The following is a list of Lepidoptera I have taken in Kilton Woods about 8th July, 1903: *Pieris brassicae*, *P. rapae*, *P. napi*, *Ganessa urticae*, *Epinephela janira*, *E. hyperanthus* (very local), *Coenonympha pamphilus*, *Lycaena icarus*, *Hepialus humuli*, *H. lupulinus*, *H. hectus*, *Acronycta rumicis*, *Leucania lithargyria*, *L. comma*, *L. pallens*, *L. impura*, *Xylophasia lithoxylea*, *X. monoglypha*, *Miana fasciuncula*, *Plusia interrogatoris*, *Zanclognatha grisealis*, *Rumia luteolata*, *Amphidasyus betularia*, *A. doubledayaria*, *Boarmia repandata*, *Iodis lactearia*, *Asthena luteata*, *A. candidata*, *A. sylvata*, *A. blomeri*, *Eupistena oblitterata*, *Acidalia aversata*, *A. fumata*, *Cabera pusaria*, *Macaria liturata*, *Bupalus piniaria*, *Abraxas grossulariata*, *A. sylvata* (*ulmata*), *Lomaspilis marginata*, *Larentia didymata*, *S. viridaria*, *Emmelesia affinitata*, *Melanthia albicillata*, *M. ocellata*, *Melanippe montanata*, *M. sociata*. There should also occur other specimens, but the foregoing is a list of things actually taken about the time of the excursion. The names given are according to the "Entomologist List."

Mr. T. A. Lofthouse writes:—Kilton Woods, near Loftus, are well worth a visit from entomologists. These Woods have been worked a little (practically day collecting only) for some years by Cleveland lepidopterists, to whom it has proved to be one of the most satisfactory collecting grounds in the Cleveland district; from the varied character of the ground many species are likely that have not hitherto been recorded, and the ground should prove rich in "micros" which have not been worked, in this district. Among the Butterflies the most notable species that have been taken are *Thecla W—album*, and *E. hyperanthus*. *E. tithonus* has been taken in the district, and some of the *Fritillaries* should certainly occur. Of the moths that have occurred in the district, most of which should be in evidence at the time of the meeting, are *S. mendica*, *C. glaucata*, *H. vellela* and *hectus*, *P. populi* (larvæ), *T. deresa*, *G. gemina*, *unanimis*, *C. viminalis*, *A. prasina* and *nebulosa*, *H. tenebrata*, *E. prosapiaria*, *H. pennaria* (larvæ), *L. lactearia*, *A. luteata*, *candidata*, *sylvata*, and *blomeri*, *E. oblitterata*, *V. cambrica*, *A. dimidiata*, *biselata*, *remutata*, and *fumata*, *H. liturata*, *N. pulveraria*, *B. piniaria*, *G. sylvata* (common some seasons), *L. marginata*, *L. casitata*, *olivata*, and *viridaria*, *O. affinitata* *alchemillata*, and *decolorata*, *H. trifasciata*, and *sordidata* (dark), *M. bicolorata*, *ocellata*, and *albicillata*, *C. designata*, *C. corylata*, *silacea*, *suffumata*, *populata*, and *dotata*, *G. plagiata*, *Hy. sequella*, etc.

See "Lepidoptera noticed in Kilton Woods and vicinity during 1898," by Mr. T. Ashton Lofthouse in the "Naturalist," for April, 1899.

**Coleoptera.**—The Yorkshire Coleoptera Committee will be officially represented.

**PROGRAMME OF MEETINGS.**—

|                                   |                             |
|-----------------------------------|-----------------------------|
| 5 p.m. prompt—Meat Tea, 1/6 each. | } At the Golden Lion Hotel. |
| 5-40 p.m.—Sectional Meetings.     |                             |
| 5-50 p.m.—General Meeting.        |                             |

Trains leave for North and South, via Middlesbrough, 6-7 p.m. and 9-24 p.m.  
 ,, via Whitby, Scarbrough, and Bridlington, 6-5 p.m.

In order that an early account of the excursion may appear in the "Naturalist," notes and reports should be forwarded before July 16th, to the Secretary of the Y.N.U., the Museum, Hull.



# Yorkshire Naturalists' Union.

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## President :

G. W. LAMPLUGH, F.R.S., F.G.S., London.

## Ex-Presidents :

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H. CLIFTON SORBY, LL.D., F.R.S., etc., Sheffield.  
JOHN GILBERT BAKER, F.R.S., F.L.S., Kew.  
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WILFRID H. HUDLESTON, M.A., F.R.S., London.  
HENRY EELES DRESSER, F.L.S., F.Z.S., London.  
R. H. TIDDEMAN, M.A., F.G.S., Oxford.  
ROBERT BRAITHWAITE, M.D., F.L.S., London.  
Prof. W. BOYD DAWKINS, M.A., F.R.S., Manchester.  
Prof. Sir MICHAEL FOSTER, K.C.B., M.P., Sec. R.S., Cambridge.  
WILLIAM WEST, F.L.S., Bradford.  
GEORGE T. PORRITT, F.L.S., F.E.S., Huddersfield.  
Prof. PERCY F. KENDALL, F.G.S., Leeds.  
W. DENISON ROEBUCK, F.L.S., Leeds.  
A. H. PAWSON, J.P., F.L.S., Farnley.

## Divisional Secretary :

J. W. STATHER, F.G.S., 16 Louis Street, Hull.

## Hon. Secretary :

T. SHEPPARD, F.G.S., Municipal Museum, Hull.

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## THE 189TH MEETING

WILL BE HELD AT

# POCKLINGTON,

ON

## Bank Holiday, Aug. 7th, 1905.

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**RAILWAY ARRANGEMENTS.**—Through return tickets at pleasure party rates will be issued at all stations on the G.C., G.N., H. & B., L. & Y., L. & N.W., Midland, and N.E. Railways which have booking arrangements for Pocklington to Members and Associates of the Y.N.U. surrendering the Certificate



noted below. Tickets taken on Friday, August 4th, will be available for return on Tuesday, Aug. 8th. Where through bookings are not in operation Members may book to most convenient junction, and re-book to destination; the reduced fares being available for each stage of the journey.

**N.B.—The Railway Booking Clerks will only grant these reduced fares to Members and Associates producing a Special Certificate signed by the Secretary of the Union. Members and Associates wishing for this Certificate must apply to Mr. Sheppard for it, and must enclose a stamped directed envelope and their current card of membership of the Union, which latter will be returned with the Certificate. At stations on the N.E. Rly. tickets at the reduced fares will be issued on production of the signed card of membership.**

**BOOKS AND MAPS.**—The whole area is included in Sheets 93 S.E. and 94 S.W. of the One-Inch Ordnance Map, which may be obtained geologically coloured. See Programme No. 106 (1893), which may be had from the Hon. Sec., price 2d.; also "The Geology of the country between York and Hull" (Geol. Survey Mem.) 1886; also the "Naturalist" for 1885, pp. 307-309.

**THE DISTRICT** to be investigated includes the western escarpment of the Yorkshire Wolds, and a portion of the Vale of York, which is a broad and ancient valley excavated in the soft sandstone and marls of the Permian and Triassic Series. On the western side, the valley is bounded by the gentle dip slope of the Magnesian Limestone, whilst its eastern boundary is sharply defined by the bold escarpments of the Jurassic and Cretaceous rocks. Prof. Kendall has recently pointed out that the features of the solid geology of the neighbourhood of Market Weighton and Pocklington are of "unique interest and importance." He remarks that "Market Weighton lies upon the prolongation of the faulted anticline which forms the northern boundary of the Yorkshire Coalfield to the North of Leeds. The disturbance was initiated in the interval between the deposition of the Middle Coal Measures and that of the Permian. No definite signs of Post Permian movement can be detected in the Triassic rocks of the Vale of York, as they are concealed beneath a nearly continuous mantle of superficial deposits, but the Jurassic and Cretaceous rocks of the East Riding show signs which cannot be mistaken of an intermittent movement by which, either by default of deposition or by frequently repeated erosions the rising arch was deprived of all the Jurassic Series with the exception of an attenuated representative of the Lower Lias. In like manner the Neocomian rocks fail to be represented, except by a few pebbles, and the Red Chalk rests directly on Lower Lias. The hiatus is filled in the coast sections from Speeton northward by a series of Jurassic and Neocomian beds, upwards of two thousand feet in thickness, and this will be the measure of the *relative* uplift of the Market Weighton axis since Triassic times, but before the deposition of the Chalk. The disturbed belt extends as far north as Kirkham Abbey, and its prolongation eastward under the Chalk is proved by the fact that a well at Huggate passed from Chalk into strata yielding the well-known *Ammonites annularis*."

**ROUTES.**—**SATURDAY:** Start from Nunburnholme Station on the arrival of the 9-47 a.m. train from York, and work round to Pocklington via Warter and Wharram Percy. **MONDAY:** Leave Pocklington on arrival of the 10-18 a.m. train from York and Leeds, and examine the district around Great Givendale and Millington.

**PERMISSION** to visit their properties has been kindly granted by Lord Londesborough, Lord Herries, Mr. Charles H. Wilson, M.P., and Major-General Duncombe.

**HEADQUARTERS.**—The Feathers Hotel. Terms: bed, breakfast, dinner, sandwiches and attendance, 6/- per day. Early application should be made to Mrs. Nicholls for rooms.

**GEOLOGY.**—The Geological Section will be officially represented by Messrs. A. J. Stather and J. Cosmo Johns, F.G.S.

Mr. J. W. Stather writes :—Pocklington is situated just outside the western fringe of the Chalk Wolds, the town itself being on the Keuper beds (Upper Trias) of the Vale of York. The beds likely to be seen during the excursion are :—

(a) The *Keuper Marls*, upon which Pocklington stands, occur in good section in a brickyard close to the railway, about a mile from the town.

(b) The *Lias*, which in this neighbourhood is everywhere conformable to the underlying Keuper, and can be traced in a narrow strip along the edge of the Chalk escarpment. In following the stream up from Nunburnholme to Warter the zone of *Ammonites planorbis* may be found, and the *A. anguatus* zone is seen between Millington and Pocklington. The overlying *A. bucklandi* and *A. jamesoni* zones are also found as the valley is ascended towards Warter.

(c) *Upper Cretaceous*. The Chalk Wolds occupy the high ground to the north and west of Pocklington, and the beds can be examined in numerous quarries. The Red Chalk (the basement bed of the Upper Cretaceous series) can be seen resting on the Lias at Warter, and also outcrops in the vicinity of Millington.

(d) *Superficial Deposits*. The recent gravels which occupy the low ground in the neighbourhood of Pocklington are worthy of examination, particularly as regards the contained foreign pebbles.

**BOTANY.**—The Botanical Section will be officially represented by Mr. J. J. Marshall.

**Flowering Plants.**—Mr. J. J. Marshall writes :—During a visit to Allertorpe Common and Barmby Moor, the following characteristic sand and peat loving plants were secured, and some will reward the careful searcher :—*Gentiana pneumonanthe*, *Comarum palustre* (fruit), *Jasione montana*, *Drosera intermedia*, *Ornithopus perpusillus*, *Galium uliginosum*, *Salix repens*, *Radiola millegrana* and *Scleranthus annuus*. *Malva rotundifolia* is frequent by the side of old buildings in the villages near, and *Silene noctiflora*, *Sanguisorba officinalis*, *Carduus pratensis*, *Anagallis tenella*, *Lamium amplexicaule*, *Filago minima*, *Centunculus minimus*, *Rumex hydrolapathum*, and *Apera spica-venti* have all been noted on similar ground, within the radius of a few miles. Those who ascend the higher ground to Kilnwick Percy, the adjacent portion of the Yorkshire Wolds, will probably meet with *Carduus nutans*, *Scabiosa columbaria* and *Spiraea filipendula*.

**Mosses and Hepatics.**—The Yorkshire Bryological Committee will be officially represented by Mr. Marshall.

Mr. Marshall writes :—Bryologists should be on the look out for the rare *Dicranum undulatum* Ehrh., as it occurs a few miles away at Market Weighton, and the rare hepatic, found by the late Dr. Spruce, *Haplomitrium Hookeri* Nees, associated with *Fossombronia dumortiera*.

**Fungi.**—The Yorkshire Mycological Committee will be officially represented by its Secretary.

Mr. Crossland writes :—The Union's Annual Fungus Foray of 1893 (see "Naturalist," March, 1894) for the investigation of Allertorpe and Everingham Woods was held here. That season being exceptionally dry, the results were not so satisfactory as might have been the case had moister weather prevailed during August and September. Only about 180 species were noted during the four days' search, but several of them were of special interest. If this season proves to be more propitious (for Fungi), and suitable ground is covered, it is possible to add to our present somewhat scanty knowledge of the Fungus Flora of this district.

**VERTEBRATE ZOOLOGY.**—The Vertebrate Section will be officially represented Mr. R. Fortune, F.Z.S.

The neighbourhood of Pocklington, as planned for investigation on this occasion, will be found to be, from its varied physical characteristics, rich in forms of vertebrate life. On the one side the western escarpment of the Chalk Wolds, thickly clothed in wood, and on the other the agricultural districts of the York plain, with the extensive unenclosed Allertorpe Common and its encircling patches of woodland, all furnish haunts of varying character for birds and mammals, reptiles and amphibians, while not a few fish should be found in the canal.

For lists see the previous Pocklington Circular.

**CONCHOLOGY.**—The Conchological section will be officially represented.

**Land and Freshwater Mollusca.**—The following species have been recorded for the district:—*Arion ater*, *A. hortensis*, *Limax agrestis*, *L. lavis*, *L. maximus*, and *L. flavus*; *Anodonta cygnea* (abundant in the lake at Kildwick Percy), *Pisidium pusillum*, *Planorbis albus*, *P. complanatus*, *Limnaea peregra*, and *L. truncatula*; *Zonites nitidulus*, *Z. alliarius*, *Helix aspersa*, *H. nemoralis*, *H. hortensis*, *H. cantiana*, *H. hispida*, *H. rotundata*, *Bulimus obscurus*, *Clausilia rugosa*, *C. laminata*, *Zua lubrica*, and *Carychium minimum*. *Helix arbustorum* and *H. virgata* are also recorded.

**ENTOMOLOGY.**—The Entomological Section will be officially represented.

The district is one which should prove most attractive to the entomologist, owing to the very diversified nature of the country, including as it does, wide expanses of gorse covered commons, large woods with plenty of open glades, and many ponds. Allertorpe Common, in particular, is very good for the entomologists. Here *Geotrupes typhæus* occurs in abundance; *Melolontha vulgaris*, *Sermyle halensis*, *Adalia obliterata*, *Halysia 22-punctata*, and *Coccinella 7-punctata* are very common, and one *C. hieroglyphica* was obtained. *Bolitobius trinotatus* and *B. exoletus* were found on decaying fungi.

**Coleoptera.**—The Yorkshire Coleoptera Committee will be officially represented.

In 1893, when the Union last visited this district, it was a particularly hot and dry year, consequently beetles were scarcer than in ordinary seasons. The present excursion being more than a month earlier, should result in a larger number of species, representing many more families, than observed on the former occasion.

**PROGRAMME OF MEETINGS.**—(Monday)—

4-15 p.m. prompt—Meat Tea, 1/6 each.

5-0 p.m.—Sectional Meetings.

5-15 p.m.—General Meeting.

In order that an early account of the excursion may appear in the "Naturalist," notes and reports should be forwarded before Aug. 14th, to the Secretary of the V.N.U., the Museum, Hull.

# Yorkshire Naturalists' Union.

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## President :

G. W. LAMPLUGH, F.R.S., F.G.S., London.

## Ex-Presidents :

Rev. Wm. FOWLER, M.A., Liversedge.  
H. CLIFTON SORBY, LL.D., F.R.S., etc., Sheffield.  
JOHN GILBERT BAKER, F.R.S., F.L.S., Kew.  
Rt. Hon. LORD WALSHINGHAM, M.A., F.R.S., Thetford, Norfolk.  
Rev. W. H. DALLINGER, LL.D., F.R.S. etc., London.  
Sir RALPH PAYNE GALLWEY, Bart., M.B.O.U., Thirkley Park.  
WILFRID H. HUDLESTON, M.A., F.R.S., London.  
HENRY EELES DRESSER, F.L.S., F.Z.S., London.  
R. H. TIDDEMAN, M.A., F.G.S., Oxford.  
ROBERT BRAITHWAITE, M.D., F.L.S., London.  
Prof. W. BOYD DAWKINS, M.A., F.R.S., Manchester.  
Prof. Sir MICHAEL FOSTER, K.C.B., M.P., Sec. R.S., Cambridge.  
WILLIAM WEST, F.L.S., Bradford.  
GEORGE T. PORRITT, F.L.S., F.E.S., Huddersfield.  
Prof. PERCY F. KENDALL, M.Sc., F.G.S., Leeds.  
W. DENISON ROEBUCK, F.L.S., Leeds.  
A. H. PAWSON, J.P., F.L.S., Farnley.

## Divisional Secretary :

A. WHITAKER, Saville House, Worsbrough Bridge, Barnsley.

## Hon. Secretary :

T. SHEPPARD, F.G.S., Municipal Museum, Hull.

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## THE 190TH MEETING

WILL BE HELD AT

# BARNLSLEY,

FOR THE INVESTIGATION OF THE

## CUDWORTH DISTRICT,

ON

**SATURDAY, SEPTEMBER 9th, 1905.**

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**RAILWAY ARRANGEMENTS.**—Through return tickets at pleasure party rates will be issued at all stations on the G.C., G.N., H. & B., L. & Y., L. & N.W., Midland, and N.E. Railways which have booking arrangements for Barnsley to Members and Associates of the Y.N.U. surrendering the Certificate noted below. Tickets taken on Friday, September 8th, will be available for return on Monday, September 11th. *Members arriving by the Midland and H. & B. will be permitted to break their journey at Cudworth.* Where through bookings are not in operation Members may book to the most convenient junction, and re-book to destination; the reduced fares being available for each stage of the journey.



*alliaris*, *H. nitidula*, *H. pura*, *H. crystallina*, *H. fulva*, *Helix rotundata* and var. *alba*, *H. aculeata*, *H. memorialis*, *H. hortensis*, *H. hispida*, *Bulimus obscurus*, *Clausilia bidentata*, *Cochlicopa lubrica*, *Carychium minimum*, *Planorbis spirorbis*, *P. vortex*, *P. carinatus*, *Physa fontinalis*, *Limnæa peregra*, *L. auricularia*, *L. stagnalis*, *L. truncatula*, *Ancylus fluviatilis*, *Neritina fluviatilis*, *Vivipara vivipara*, *Bythinia tentaculata*, *B. leachii*, *Valvata piscinalis*, *Unio tumidus*, *Anadonta cygnea*, *A. anatina*, *Spherium corneum*, *Pisidium annicum* and *Dreissensia polymorpha*.

The New Park Spring route will afford very little opportunity for collecting aquatic species, but those mentioned above may be found in the canal adjoining the district marked out for investigation.

The following additional species are also recorded in the Trans. Y.N.U. as occurring in the Barnsley Canal, viz. :—*Planorbis albus*, *Umbilicatus fontanus*, *Unio pictorum*, *Spherium rivicola*, *S. pallidum*.

**ENTOMOLOGY.**—The Entomological Section will be officially represented by Mr. A. Whitaker, one of its Secretaries.

**Macro-Lepidoptera.**—Mr. Whitaker writes :—The district to be worked is a very good one for the Lepidopterist, and the following amongst other species occur, and should be obtained in the larval stage if worked for :—*L. camelina*, *N. dictæ*, *dictæoides*, *dromedarius*, and *zic-zac*, *P. bucephala*, *C. duplaris* and *fluctuosa*, *A. diluta*, *A. leporina* and *alni*, *B. parthenias*, *A. betularia* var. *Doubledayaria*, *T. biundularia* (melanic), *E. punctaria*, *A. sylvata* and *remutaria*, *C. rotundaria*, *M. liturata*, *E. lariciata*, *pulchellata*, *pygmeata*, *fraxinata*, and *venosata*, *H. trifasciata* (melanic), *M. ocellata*, *hastata* and *tristata*, and many others.

Species which occur on the Commons and in the lanes are *B. quercus* var. *callunæ*, *O. potatoaria*, *S. fuliginosa*, *A. mendica*, etc.

Members who can arrange to stay at night and "sugar" will be sure to take *C. paleacea*, along with other species, if the weather is at all favourable for this method of collecting. The following species will also be out, and may be obtained if worked for :—*G. libatrix*, *X. fulvago* and *flavago*, *A. pistacina*, *rusina*, and *litura*, *C. miata* and *imanata*, *E. alniaria*, and *pennaria*, *H. micacea*, *G. ochracea*, *A. suffusa*, etc.

One of the most interesting records for the district is the finding of five full grown larvæ of *S. convolvuli* at Royston, on September 2nd, 1901 (see *Naturalist* for 1901, pages 289—90).

**Coleoptera.**—The Yorkshire Coleoptera Committee will be officially represented by Messrs. J. W. Carter, F.E.S., and H. Osteide, F.E.S.

Mr. E. G. Bayford writes :—The district to be investigated is a very promising one for the Coleopterist. Uncommon species, such as *Dromius 4-notatus*, *Bembidium rufescens*, *Silpha thoracica*, *S. 4-punctata*, *Necrodes littoralis*, *Scaphidium 4-maculatum*, *Serica brunnea*, and *Melandrya caraboides* have been found there. The lateness of the excursion should result in a preponderance of species of a fungus-loving nature, if the weather has been favourable to the growth of Fungi. Of these a number have already been recorded from the district, *Leistotrophus*, *Staphylinus*, *Oxyporus*, *Bolitobius*, and *Triphyllus* being the principal genera represented.

#### PROGRAMME OF MEETINGS.—

5-30 p.m. prompt—Meat Tea, 1/6 each, at the Queen's Hotel, Barnsley.

6-30 p.m.—Sectional Meetings } At the Barnsley Naturalists' Society's Rooms,  
7-0 p.m.—General Meeting } Central Chambers, Church Street, Barnsley.

Trains for Sheffield leave Barnsley at 9-45 and 11-23; for Leeds at 9-35; and for Hull (H. & B.) at 8-35, and (Midland) 9-35.

In order that an early account of the excursion may appear in the "Naturalist," notes and reports should be forwarded before Sept. 16th, to the Secretary of the Y.N.U., the Museum, Hull.

# Yorkshire Naturalists' Union.

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President :

G. W. LAMPLUGH, F.R.S., F.G.S., London.

Hon. Secretary :

T. SHEPPARD, F.G.S., Municipal Museum, Hull.

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## THE 191ST MEETING

WILL BE HELD AT

# MALTBY, near Rotherham,

For a Fungus Foray in Maltby Wood and  
Roche Abbey Valley,

From Saturday, Sept. 23rd, to Thursday, Sept. 28th, 1905.

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Chairman of Mycological Committee :

GEORGE MASSEE, F.L.S., F.R.H.S., of the Royal Herbarium, Kew.

Hon. Sec., Mycological Committee :

CHAS. CROSSLAND, F.L.S., 4 Coleridge Street, Halifax.

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**RAILWAY ARRANGEMENTS.**—Through return tickets at pleasure party rates will be issued at all stations on the G.C., G.N., H. & B., L. & Y., L. & N.W., Midland, and N.E. Railways, which have booking arrangements for Rotherham, to Members and Associates of the Y.N.U., surrendering the Certificate noted below. Tickets taken on Friday, Sept. 22nd, will be available for return on Friday, Sept. 29th. Where through bookings are not in operation Members may book to most convenient junction, and re-book to destination, the reduced fares being available for each stage of the journey.

**N.B.**—The Railway Booking Clerks will only grant these reduced fares to Members and Associates producing a Special Certificate signed by the Secretary of the Union. Members and Associates wishing for this Certificate must apply to Mr. Sheppard for it. At stations on the N.E. Rly. tickets at the reduced fares will be issued on production of the signed card of membership.

**PERMISSION** to visit their estates has been kindly granted by The Earl of Scarborough and S. Jebb, Esq.

**THE AREA TO BE INVESTIGATED** includes Maltby Wood, King's Wood, Sandbeck Park, the woods adjoining Firbeck Hall, and the grounds surrounding Roche Abbey.

**HEADQUARTERS** will be at the White Swan Hotel, Maltby. Terms, 6/- per day, including bed, breakfast, sandwiches for out-lunch, dinner and attendance. Dinner will be served each day at 5 p.m., with the exception of Sunday at 1 p.m. Those intending to be present must communicate with Mr. C. Weightman, the proprietor, early in September, stating they are attending the Foray.

The headquarters being six miles from Rotherham, the nearest railway station, conveyances have been arranged for to meet the arrival there of the 1-56 at the G.C., and the 1-57 at the Midland stations. Fare to Maltby, 1/- each, for party of ten or twelve. Members or visitors arriving at any other time will make their own arrangements for reaching Maltby. J. Moorhouse, Livery Stables, Ship Hill, Rotherham, will provide conveyances at a few minutes' notice.

Mycologists and naturalist students generally from any society are invited to attend and take part in the work. It is the intention of the Mycological Committee to make this five days foray as educational as possible. The specimens collected, suitable for exhibition, will be classified, named, and arranged on tables in systematic order. A commodious, well lighted room, with adjoining work-room, has been secured from Monday morning to Thursday morning.

All the necessary books and microscopes will be available.

Stereoscopic and other photographs and coloured drawings of Fungi will be on exhibit.

**ROUTES.**—Members will assemble at headquarters on the Saturday afternoon and arrange for a short foray in the immediate neighbourhood.

**MONDAY** will be given to the investigation of Maltby Wood, the entrance to which is reached by a ten to fifteen minutes' walk.

**TUESDAY**, Roche Abbey grounds and King's Wood.

**WEDNESDAY**, Sandbeck Park and Firbeck.

Excursions set out each morning at 9-30.

Tuesday will be the principal evening for the exhibition. Mr. Masee will give his annual address, and a paper on "Economic Fungi" (IV) will be read by Mr. J. H. Holland, of the Museum, Royal Gardens, Kew.

On Wednesday evening, the Meeting of the Mycological Committee will be held for transaction of business—reports, place of meeting for next year's foray, election of President, Secretary, and Committee, votes of thanks, etc.

Consignments of Fungi may be sent from any part of Yorkshire or Lincolnshire by parcel post, addressed to Mr. Crossland, c/o Mr. C. Weightman, White Swan Hotel, Maltby. These should be carefully packed with grass or moss (not paper) in suitable boxes.

There do not appear to have been any Fungi recorded in the "Naturalist" for this district. The May Meeting held here in 1884 was too early in the season for many of this class of plant.

The "History of Roche Abbey," by J. H. Aveling: Worksop 1870, contains in an addendum "The Flora of Roche Abbey," including a list of Fungi; these are to be found in Lees' "Flora of West Yorkshire." Among them are many uncommon species, several of which will most likely be met with by a careful investigation of the district. The pastures, woodlands, and other shaded places should also produce additions to the Yorkshire, if not to the British Flora.



# Yorkshire Naturalists' Union.

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**President :**

G. W. LAMPLUGH, F.R.S., F.G.S., London.

**President-Elect :**

W. EAGLE CLARKE, F.Z.S., etc., Edinburgh.

**Hon. Secretary :**

T. SHEPPARD, F.G.S., The Museum, Hull.

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## THE 192ND MEETING

AND

## 44th ANNUAL MEETING,

WILL BE HELD AT

# BRADFORD,

Including a Visit to CHELLOW DEAN, and other  
Glacial Over-Flow Channels,

ON

## SATURDAY, January 27th, 1906.

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**RAILWAY ARRANGEMENTS.**—Through return tickets at pleasure party rates will be issued at all stations on the G.C., G.N., H. & B., L. & Y., L. & N.W., Midland, and N.E. Railways which have booking arrangements for Bradford to Members and Associates of the Y.N.U. surrendering the Certificate noted below. Tickets taken on Friday, January 26th, will be available for return till Monday, January 29th. Where through bookings are not in operation Members may book to the most convenient junction, and re-book to destination; the reduced fares being available for each stage of the journey.

**N.B.**—The Railway Booking Clerks will only grant these reduced fares to Members and Associates producing a Special Certificate signed by the Secretary of the Union. Members and Associates wishing for this Certificate must apply to Mr. Sheppard for it. At stations on the N.E. Rly. tickets at the reduced fares will be issued on production of the signed card of membership.

## PROGRAMME.

**At 10 a.m.** prompt, the geologists, led by Mr. J. E. Wilson, will leave the Midland Railway Station to inspect the glacial overflow channels about Allerton and Thornton. The programme, being dependent on the weather, will be announced on the morning.

**At 11 a.m.** prompt, a party, under the guidance of Mr. W. H. Parkin, President of the Bradford Natural History and Microscopical Association, and Mr. H. B. Booth, M.B.O.U., will leave the corner of Tyrrel Street and Sunbridge Road for Chellow Dean.



Those who cannot make it convenient to join the above parties will find much to interest them in the Cartwright Memorial Hall, Lister Park, Manningham, or at the Free Library, Darley Street. The new Reference Department is worth seeing.

During the day, Mr. E. Naylor, Chairman of the Advisory Committee of the Botanical Gardens, in Lister Park, and the members of the Committee, will conduct those who desire to make an inspection of the Garden.

### **Luncheon 12=30 to 2=30 p.m.,**

will be provided at the Royal Hotel, Darley Street, table-d'hôte, 1/6 or 2/-. A private smoke room will be available. Members desiring to spend the night in Bradford will find first-class hotel accommodation at this hotel, at reasonable prices.

### **The 44th Annual Meeting**

will be held at the Cartwright Memorial Hall, Lister Park.

### **3=0 p.m.—The Sectional Meetings**

(which all members and associates are entitled to attend) will be held for the election of Officers of Sections, and to receive the Annual Reports from their Secretaries.

### **3=30 p.m.—The General Committee**

(each member of which receives a special summons with this circular) will meet to consider the Annual Report, elect Officers, and arrange the Excursion Programme for 1906.

### **5=15 p.m.—A Meat Tea,**

1/6 each, will be served in the Refreshment Room at the Cartwright Hall.

### **7=15 p.m.—The General Meeting**

of members and associates will be held. The Chair will be taken by the President of the Union, supported by prominent members. After the reading of the Annual Report and the announcement of the Excursion Programme for 1906,

### **7=30—8=30.—The Presidential Address**

will be delivered by Mr. G. W. Lamplugh, F.R.S., F.G.S.

During the delivery of the Address the chair will be occupied by Mr. S. Margerison, ex-president of the Bradford Scientific Association, and Chairman of the Local Reception Committee.

### **8=30 p.m. to 10=0 p.m., after the delivery of the Presidential Address,**

#### **The Mayor and Mayoress of Bradford,**

(W. A. Whitehead, Esq., J. P., and Mrs. Whitehead)

invite the members and associates of the Union to

#### **A Conversazione**

in the Cartwright Memorial Hall; evening dress optional. Acceptances of the invitation must be sent to Mr. Herbert E. Wroot, 15, Clarendon Terrace, Bradford, *not later than January 24th.*

An Exhibition of objects of scientific interest has been arranged by the two affiliated Societies,—

#### **The Bradford Scientific Association, and**

#### **The Bradford Natural History and Microscopical Society,**

assisted by representatives of the Bradford Philosophical Society, the Bradford Historical and Antiquarian Society, the Bradford Photographic Society, and the Senate of the Bradford Technical College.

**The Geological Photograph Albums** will be on exhibition.

### **Cards of Membership.**

The production of these is absolutely necessary for the obtaining of N.E. railway tickets at reduced fares, and for admission to the various meetings.

Members who have lost or mislaid their cards may have others on application to the Secretary, enclosing a stamped addressed envelope.

Associates may obtain theirs through the Secretary of their own local Society.

### **Election of Ten Additional Members of General Committee.**

Voting papers are not sent out this year, but members may vote by post-card addressed to the Secretary, making their choice from the List of Members.

**MAPS and BOOKS.**—The District to be traversed is on sheet 69 of the one inch Ordnance Survey Map. For the glacial geology reference may be made to papers by Mr. J. E. Wilson and by Messrs. Albert Jowett and H. B. Muff, read to the British Association at their Bradford Meeting, 1900, and printed in the "Bradford Scientific Journal"—the publication of the Bradford Scientific Association—and to a fuller paper by Messrs. Jowett and Muff, in the Proceedings of the Yorkshire Geological and Polytechnic Society, vol. xv., part ii, 1904. The British Association Handbook to Bradford and the neighbourhood gives notes on the botany, geology, zoology, entomology, and meteorology of Bradford.

**CHELLOW DEAN and BELL DEAN.**—The existence of an extra morainic lake, due to the damming up of the Bradford Beck, was noted by Professor H. Carvil Lewis in a paper read to the British Association in 1887. The evidence has since been very fully worked by Mr. J. E. Wilson, and by Messrs. A. Jowett and H. B. Muff, and by a Committee of the Bradford Scientific Association, who had the late Mr. J. Monckman, D.Sc., as recorder. These workers have shown that the glacier occupying the main valley of the Aire and the lower part of its tributary valleys obstructed the normal courses of the water flowing from the unglaciated area on the Pennine Hills, and impounded it in the upper parts of the tributary valleys. In this manner a chain of six lakes was formed fringing the south western margin of the ice. The surplus waters discharging from each lake passed into the next lake to the south and east, whilst the discharge from the lowest—the Bradford lake—escaped across the main watershed into the Spen Valley, and so into Calderdale. The district selected for an excursion is the ridge separating the lowest of these lakes from the one above it—that occupying the Harden and Cottingley valleys. This ridge is gashed through by a series of dry valleys, which afford, according to Messrs. Jowett and Muff, evidence of no fewer than seven stages in the advance, retreat, readvance and final retreat of the ice. Chellow Dean is the most important of these valleys, and it is now occupied by two service reservoirs for the Bradford water supply. At the maximum extension of the Chellow Dean must have been entirely under the Glacier, which at Harrop Edge, a little to the north-west, overtopped the 900ft. contour line.

Bell Dean, which will also be visited if the weather is suitable, was a link in the chain of channels draining the whole series of lakes at the maximum extension of the ice. The lake at its upper end—in Stream Head—must have been very small, but since the surplus waters of other lakes—about Denholme, on Oxenhope Moors, and in the Worth Valley between Crow Hill and Ponden—drained through it, the volume of water finding its way into the Bradford Valley through Bell Dean must have been considerable. From the hill-top about Thornton distant views may be obtained of others in the system of overflow channels.

**THE CARTWRIGHT HALL**, was opened in the early part of last year, having been built at a total cost of about £70,000, of which £47,500 was the gift of Lord Masham. The building stands in the park of, and occupies the actual site of Lord Masham's ancestral home, the estate having been sold to the Corporation of Bradford in 1870, as a public park. The building arose out of a desire of Lord Masham to do honour to the memory of the Rev. Dr. Edmund Cartwright (b. 1743—d. 1823), the inventor of the power-loom and one of the pioneers in the invention of a wool-combing machine. A fine statue of Cartwright, by Mr. H. C. Fehr, decorates the reception Hall. The upper floor of the building is used as a picture-gallery for the city, and will, on the visit of the Union, be arranged with the permanent collection of pictures. The lower-floor is to be devoted to museum purposes. One of the rooms is to be occupied by a series—not yet arranged—of exhibits illustrating the development of the human arts. A small-room adjoining will contain a series of pictures and antiquities of a local character.

The other end of the building, in which a special exhibition is arranged for the occasion of the visit of the Yorkshire Naturalists' Union, has been allotted by the Museum Committee of the Bradford Corporation, to a natural history museum. A scheme has been drawn up by the Council of the Bradford Scientific Association, and has received the approval of the Museums Committee, for the constitution of the natural history museum. It is intended that the museum shall have the special purpose of illustrating the natural history of Yorkshire, and of Morecambe Bay.

The main room at the west end of the building will be for the public exhibits, and the smaller room adjoining will form a students' room, with reference collections in cabinets, covering a wide scope.

The Bradford Corporation have already a good nucleus for a museum. They recently acquired the Herbarium of Dr. F. Arnold Lees, the author of the study of "West Yorkshire," and of the "West Riding Flora." This Herbarium contains over 20,000 specimens all carefully selected, and in fine condition, and many specimens are of historic interest. With one exception all the species of flowering plants known to have occurred in Britain are included in the collection, which, it is said, has no equal out of London. A section of the collection will be exhibited during the meeting of the Union. Dr. Lees' Botanical Library, which accompanied the Herbarium to the Cartwright Hall, contains many privately printed and other rare books. The Corporation also received by the bequest of the late John Bennett, of Bradford, the very fine entomological collection formed some thirty years ago by the late James Varley, of Huddersfield, one of the earliest members of the old West Riding Consolidated Naturalists' Societies, and well known as an entomologist and ornithologist. This collection contains a fairly complete series of British specimens of the Lepidoptera, including original specimens of the variety of the common currant moth, named after Mr. Varley, its discoverer, (*Abraxas grossulariata*, var. *Varleyata*.) In the department of geology, the museum contains a well-selected type collection of British fossils, a bequest from the late Mr. John McLandsborough, F.R.Met.L.Soc.

Many years ago the Bradford Philosophical Society, had in the town, an excellent natural history museum, which was organized and arranged under the curatorship of Professor Miall, now of Leeds University. Thirty years since the Council of the Society came to the conclusion that the museum could not effectively continue its work as an educational factor in the town, until more suitable and commodious premises were provided. An effort to build a new Museum in conjunction with an Art School coming to nothing, the collections have ever since been stored. The fossils and mineralogical collections are especially valuable, and include a fine saurian of the Coal Measures. These have been removed from their hiding place and have been lent by the Philosophical Society to the Cartwright Hall. Other smaller collections are also in hand, and it is hoped in the course of a short time to organize a really good permanent natural history department of the museum.

Included in the temporary exhibition arranged in connection with the visit of the Unions, will be a large number of interesting birds and mammals lent by many Yorkshire and other naturalists, and including a complete series of specimens of all the Yorkshire bats, lent by Mr. Arthur Whitaker and Mr. Jos. Armitage, of Barnsley; and, it is hoped, living specimens of the English black-rat, and of the Orkney Vole, lent by Mr. Riley Fortune, F.Z.S., of Harrogate. There will also be a collection, for which Sir Mathew Wilson, Bart., of Eshton Hall, and others are lending material, illustrating the contributions to science of Bradford men of past generations.

**THE BOTANICAL GARDEN.**—The Botanical Garden in Lister Park, Manningham, is a short distance to the north-west of the Cartwright Hall. The site measures two acres, and is specially fortunate in having a natural beck running beside it. This has made easy the provision of a bog, a lily-pond, and a water-fall (for ferns, etc.). In April, 1903, a commencement was made, and the structural work was almost completed in the last season. Thanks to much kind help from the Royal Gardens, Kew, and scores of private donors, a fine collection of plants, aggregating 1,700 species, has already been brought together. These are arranged for the most part in natural orders, but there is a series of beds for the display of Alpines, etc. The end of January is not, perhaps, a favourable time for the inspection of the garden, but throughout the last season it abundantly justified its establishment as a very charming and interesting feature, and the frequent public lectures which were given in the garden undoubtedly gave a considerable stimulus to botanical study.



# Yorkshire Naturalists' Union.

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## President :

W. EAGLE CLARKE, F.R.S.E., Edinburgh.

## Ex-Presidents :

Rev. WM. FOWLER, M.A., Liversedge.  
H. CLIFTON SORBY, LL.D., F.R.S., etc., Sheffield.  
JOHN GILBERT BAKER, F.R.S., F.L.S., Kew.  
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Prof. PERCY F. KENDALL, M.Sc., F.G.S., Leeds.  
W. DENISON ROEBUCK, F.L.S., Leeds.  
A. H. PAWSON, J.P., F.L.S., F.G.S., London.  
G. W. LAMPLUGH, F.R.S., F.G.S., London.

## Divisional Secretary :

W. ROBINSON, Greenbank, Sedbergh.

## Hon. Secretary :

T. SHEPPARD, F.G.S., Municipal Museum, Hull.

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## THE 193RD MEETING

WILL BE HELD AT

# INGLETON,

ON

Saturday, May 12th, to Monday, May 14th, 1906.

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**RAILWAY ARRANGEMENTS.**—Through return tickets at pleasure party rates will be issued at all stations on the G.C., G.N., H. & B., L. & Y., L. & N.W., Midland, and N.E. Railways, which have booking arrangements for Ingleton, to Members and Associates of the Y.N.U., surrendering the Certificate noted below. Tickets taken on Friday, May 11th, will be available for return on Tuesday, May 15th. Where through bookings are not in operation Members may book to most convenient junction, and re-book to destination, the reduced fares being available for each stage of the journey.



**N.B.**—The Railway Booking Clerks will only grant these reduced fares to Members and Associates producing a Special Certificate signed by the Secretary of the Union. Members and Associates wishing for this Certificate must apply to Mr. Sheppard for it, and must enclose a stamped directed envelope and their current card of membership of the Union, which latter will be returned with the Certificate. At stations on the N.E. Ry. tickets at the reduced fares will be issued on production of the signed card of membership.

**BOOKS AND MAPS.**—The whole area is included in Sheet 97, S.W., of the One-Inch Ordnance Map, which may be obtained geologically coloured. Mr. Speight's work on the Craven and North-West Yorkshire Highlands contains chapters on the Geology and Flora of the district; and so does Miss Balderston's "Ingleton Bygone and Present." There are papers by Prof. T. Mc. K. Hughes, F.R.S., in Vol. XIV. of the Yorkshire Geological Society's Proceedings, on the Geography and Stratigraphy of Ingleborough. Davis and Lee's "West Yorkshire" also relates to the Geology and Botany of Ingleton.

**THE DISTRICT** to be investigated consists of the well-known hill "Ingleborough" and the neighbourhood—the hill itself having a base of some 30 square miles.

**HEADQUARTERS.**—Ingleborough Hotel, Ingleton.

**ROUTES.**—Geologists arriving at 9-30 a.m. will proceed under the leadership of Mr. E. Hawkesworth *via* Jenkingill, Skirwith, Chapel le Dale, and the Ingleton and Thornton Rocks. Those arriving at 10-55 will proceed by the same route under the leadership of Mr. W. Robinson. Both parties will meet at the Granite Quarry.

**PERMISSION** to visit their property has been kindly granted by The Ingleton Granite Co., Ltd., and the Manager, Mr. Tate, has kindly offered to afford information and help to the various parties.

**GEOLOGY.**—The Geological Section will be officially represented by its President, Mr. Cosmo Johns, and the Carboniferous Fauna and Flora Committee by Mr. E. Hawkesworth.

Mr. Cosmo Johns, F.G.S., writes:—There are two outstanding problems awaiting solution at Ingleton. The first is that of the Craven Faults. During the Tiddeman-Marr controversy it was very clear that much of the misunderstanding was due to lack of information regarding these faults. Dr. Marr insisted on the existence of an overthrust to explain the "reef knolls" of the Craven district, and the admitted difference in the character of the Carboniferous rocks north and south of the faults. Mr. Tiddeman considers the Craven Faults to have been in action during Carboniferous times, and offered another explanation of the "knolls." The solution of the difficulty is probably rather more complicated than either of the authors realised, and a first step towards simplifying things would be to determine the character of the faults in the area to be visited. The next problem, and perhaps the most pressing, is that of determining the exact horizon of the Carboniferous basement conglomerate—or in its absence, that of the lowest Carboniferous beds—as compared with the sequence of the Bristol and South Wales areas. In Yorkshire, wherever exposed, the Carboniferous rocks rest on the upturned edges of the Silurians. In the two southern areas mentioned the Carboniferous beds lie conformably on the old Red-Sandstone. The important point to determine is at what horizon of the Bristol and South Wales sequence were the basement beds of Yorkshire laid down. The zonal classification of Dr. Vaughan will be used, and the Corals and Brachiopods used as zone fossils. It is hoped that something definite will be done.

Mr. W. Robinson writes:—Eliminating for the moment the problems connected with the Great Faults running along its south western slope, "Ingleborough" may be regarded as typical of the adjacent grit-topped hills, and forms

an admirable and interesting object lesson for the young geologist. It is perched on a battered old Silurian floor, exposed to view in many places, but in none more conspicuously than in the country proposed to be traversed by the Geological Section. The imagination may be called into play when thinking of the initial history of these old Silurian rocks, and of their chequered course through long aeons of time, unaffected probably by the seas and great lakes of Devonian age, until finally they were covered by the encroaching waters, and so became the platform on which the great Scar limestone beds, now so useful a feature in the landscape, were successively deposited. Resting on these massive limestones there follow in regular sequence the Yoredales of Phillips; the whole being topped by grits of early Millstone age. Doctor Hind, at a recent meeting of the Yorkshire Geological Society, pointed out that the "Yoredales" were but a phase in the Carboniferous System due to physiographical conditions, and that their distinctive character resulted probably from a deposition in the delta of some great river flowing approximately from the north-east. As these beds would necessarily thin out as they approach the margin of the delta, Dr. Hind's theory may be helpful in explaining the dissimilarity of the Carboniferous beds north and south of the Great Faults.

**BOTANY.**—The Botanical Section will be officially represented by Dr. W. G. Smith (President).

**Flowering Plants.**—Mr. P. Fox Lee writes:—The first excursion for 1879, the first of the Union's Rambles, was held at Ingleton, on Easter Monday, 14th April. In the Circular issued on that occasion, Mr. William West gave a list of flowering plants he had noted there in the previous April, viz.:—*Saxifraga oppositifolia*, *Sesleria cærulea*, *Sedum Rhodiola*, *Asplenium viride*, *Lycopodium alpinum*, and *L. Selago*. Also Mr. Hindson, of Kirby Lonsdale, added a few others occurring in the district, but at a little later time of the year. I, too, have gathered there *Primula farinosa*, *Ophrys muscifera*, *Habenaria albida*, *Paris quadrifolia*, and *Schœnus nigricaus*, although these will not be sufficiently advanced now to be noticeable.

**BOTANICAL SURVEY COMMITTEE.**—A survey of some area will be carried out during this meeting. Members and others wishing to join in survey work may ascertain details from the Convener (Dr. W. G. Smith), at Ingleton on Saturday morning.

**Mosses and Hepatics.**—The Yorkshire Bryological Committee will be officially represented by Mr. Wm. Ingham, B.A., who writes:—Ingleton is an excellent centre for the bryologist. Among the many mosses found close by Ingleton are *Polytrichum strictum*, *Dicranella squarrosa*, *Grimmia apocarpa* var. *rivularis*, *Rhacomitrium protensum*, *Ptychomitrium polyphyllum*, *Hypnum falcatum* var. *virescens*, (the last three all close by Thornton Force), *Trichostomum mutabile*, *Breutelia arcuata*, *Heterocladium heteropterum*, *Eurhynchium Teesdalei*, and *E. pumilum* in fruit. Helk's Wood is interesting ground, where may be found *Weisia microstoma* var. *obliqua*, *Thuidium recognitum*, *Brachythecium glareosum* in fruit, *Hypnum incurvatum* in abundant fruit, and *Hypnum palustre* var. *subsphaericarpon*. Bryologists who have time should not omit Ingleboro', on the slopes of which are the following rare mosses:—*Polytrichum alpinum*, *P. strictum*, *Dicranum fuscescens* var. *falcifolium*, *Barbula recurvifolia*, *Tortula aloides*, *Dicranodontium longirostre* var. *alpinum*, *Zygodon gracilis*, *Rhacomitrium sudeticum*, *Cedipodium Griffithianum*, *Mnium orthorrhynchum*, *Eucalypta commutata*, *E. ciliata*, *E. rhabdocarpa*, *Myurella julacea*, and *Pseudoleskea catenulata*.

**Fungi.**—The Yorkshire Mycological Committee will be officially represented by its Secretary, Mr. C. Crossland, F.L.S., who writes:—There are very few records of Fungi for this district. The date of the excursion is suitable for Spring *Pezizæ* and *Helvella*. Careful investigation of likely places will almost certainly result in the finding of members of one or other of these groups. The time is too early for *Agarics*, etc.

**VERTEBRATE ZOOLOGY.**—The Vertebrate Section will be officially represented by Mr. Alfred White, F.Z.S., and Mr. Riley Rortune, F.Z.S.

**Birds.**—Mr. H. B. Booth, M.B.O.U., writes :—The Warblers are well represented here, and should be in full song at the time of the Y.N.U. visit. The Dipper (common), and the Grey Wagtail may be seen along the streams. For several years a pair of Merlins nested on one of the slopes of Ingleborough—known as “The Allotments,” and just beyond the Gaping Ghyll hole—and may do so yet.

**CONCHOLOGY.**—The Conchological Section will be officially represented by its President, Mr. W. Denison Roebuck, F.L.S.

**ENTOMOLOGY.**—The Entomological Section will be officially represented.

**Lepidoptera.**—Mr. J. W. Carter, F.E.S., writes :—Besides a few common species, *Coremia munitata* is the only one of interest which we have on record for the district.

**Coleoptera.**—The Yorkshire Coleoptera Committee will be officially represented by Mr. J. W. Carter, F.E.S., and Mr. H. Osteide.

Mr. Carter writes :—The district around Ingleton has not been systematically worked, the few species recorded having been obtained on flying visits. The rare species noted are *Carabus arvensis*, Hbst. ; *Nebria gyllenhali*, Sch., and its variety *rufescens*, Stroem, quite recently added to the British list ; *Pterostichus aethiops*, Pz. ; *Calathus melanocephalus*, var. *nubigena*, Hal. ; *Patrobus assimilis*, Chaud ; *Byrrhus fasciatus*, F. ; *Lathrobium multipunctum*, Gr. ; and *Philonthus addendus*, Shp. The date of the meeting is a good time for investigating the coleopterous fauna of the district, and the sides and top of Ingleboro’ will doubtless furnish some good species, especially of ground beetles—*Geodephaga*. *Carabus glabratus* may possibly turn up.

Mr. M. L. Thompson writes :—Dr. G. W. Chaster, when on a visit to Ingleton, met with the following beetles of interest—*Ischnoglossa prolixa*, *Sipalia ruficollis*, *Othius myrmecophilus*, *Homalium vile*, *Bythinus securiger*, *B. burrelli*, *B. validus*, *Scydmenus collaris*, *Cryptophagus setulosus*, *Otiorrhynchus rugifrons*, *Mnicophila muscorum*, *Haltica herbigrada* var. *levicollis*, *H. palustris*, *Choleva wilkini*, *Scaphisoma agaricinum*, *Apion loti*, *A. seniculum*, and *Cis festivus*.

Mr. E. G. Bayford writes :—The Ingleton district promises well for the Coleopterist. *Carabus glabratus* Payk. was first taken here by Professor Hooker. Dr. Chaster has found a number of rare and uncommon species. I have also met with the var. *aruginosus* F. of *Corymbites cupreus* F.

**PROGRAMME OF MEETINGS :—**

4-15 p.m. prompt, Meat Tea, 1/9 each, }  
5-0 p.m., Sectional Meetings, } at Ingleborough Hotel, Ingleton.  
5-15 p.m.—General Meeting, }

Last train for the North leaves Thornton Station at 6-0 p.m.

“ „ „ Leeds, Midlands, and South leaves Ingleton Station at 6-45 p.m.

In order that an early account of the excursion may appear in the “Naturalist,” notes and reports should be forwarded before May 21st, to the Secretary of the Y.N.U., the Museum, Hull.



# Yorkshire Naturalists' Union.

## President :

W. EAGLE CLARKE, F.R.S.E., Edinburgh.

## Divisional Secretary :

J. W. STATHER, F.G.S., 16 Louis Street, Hull.

## Hon. Secretary :

T. SHEPPARD, F.G.S., Municipal Museum, Hull.

## THE 194TH MEETING

WILL BE HELD AT

# FLAMBOROUGH,

ON

## Whit-Week End, June 2nd to 4th, 1906.

**RAILWAY ARRANGEMENTS.**—Through return tickets at pleasure party rates will be issued at all stations on the G.C., G.N., H. & B., L. & Y., L. & N.W., Midland, and N.E. Railways, which have booking arrangements for Flamborough, to Members and Associates of the Y.N.U., surrendering the Certificate noted below. Tickets taken on Friday, June 1st, will be available for return on Tuesday, June 5th. Where through bookings are not in operation Members may book to most convenient junction, and re-book to destination, the reduced fares being available for each stage of the journey. Members travelling by the N.E.R. on Monday only, may book at the cheap rates for Bempton.

**N.B.**—The Railway Booking Clerks will only grant these reduced fares to Members and Associates producing a Special Certificate signed by the Secretary of the Union. Members and Associates wishing for this Certificate must apply to Mr. Sheppard for it, and must enclose a stamped directed envelope and their current card of membership of the Union, which latter will be returned with the Certificate. At stations on the N.E. Rly. tickets at the reduced fares will be issued on production of the signed card of membership.

**BOOKS AND MAPS.**—The whole area is included in Sheets 55 and 65 of the One-Inch Ordnance Map, which may be obtained geologically coloured. Reference should be made to Phillips' "Illustrations of Yorkshire Geology," and "Rivers, Mountains, and Sea-Coast of Yorkshire"; the "Handbook to Flamborough Village and Headland"; the "Drifts of Flamborough Headland," by G. W. Lamplugh (Q.J.G.S., 1891); the "Yorkshire Chalk," by Dr. A. W. Rowe, and C. D. Sherborn (Proc. Geol. Assn., 1904); T. Sheppard's "Geological Rambles in East Yorkshire" (1903); J. F. Robinson's "East Riding Flora" (1902); C. G. Danford's "Belemnites of the Speeton Clays" (Trans. Hull Geol. Soc., 1906); and Wade's "Birds of Bempton Cliffs" (1903). See also previous Y.N.U. programme for Flamborough (No. 116, with map), which may be obtained from the Hon. Secretary, price 2d.

**THE DISTRICT** to be investigated includes the Headland of Flamborough, particularly the cliff line between Bridlington and Speeton. Generally speaking, the area to be examined is defined on the west by the North Eastern Railway, and on the north-east and south-east by the sea. The district includes a variety of conditions favourable to almost all branches of natural history.

**HEADQUARTERS.**—The Station Hotel, Bridlington (close to the station), is found to be the most convenient. Terms: (bed, breakfast, and dinner), 6s. 6d. per day. Members proposing to stay should *communicate with the manageress at once*. Rooms will be allotted in the order the applications are received.

**EVENING MEETINGS.**—A room has been set apart for the use of the members at the hotel. Amongst the papers, etc., to be read and discussed are:—

"The Yorkshire Boulder Committee, Past and Future"—Mr. J. H. Howarth, J.P., F.G.S.

"The Yorkshire Coast Erosion Committee"—Dr. F. F. Walton, F.G.S.

"Flamborough as a Migration Centre"—Mr. T. H. Nelson, M.B.O.U.

"Recent Finds at Speeton (Exhibition of Specimens)"—Mr. C. G. Danford.

"Geological Problems to be solved at Flamborough"—Mr. J. W. Stather, F.G.S.



**ROUTES.**—*Saturday.* Geologists, led by Mr. J. W. Stather, F.G.S., will leave the Station Hotel, at 9-30 a.m. for the Chalk Pits at Bessingby, White Hill, etc., and return in time to meet the afternoon party at the Hotel at 2 o'clock, thence along the shore to Sewerby and Dane's Dyke. The botanists, under the guidance of Messrs. J. F. Robinson and C. Crossland, F.L.S., will probably investigate Dane's Dyke ravine, etc. Dinner at 6 o'clock.

On the following day the party will leave headquarters for Bempton and Speeton, and pay attention to the northern part of the headland, and the Speeton clays. Return from Speeton station at 5-43. Dinner at 6-30 p.m.

*Monday.* Leave Bridlington at 9-17 (Hull 8-5), and alight at Bempton station, where the train will stop specially for the party. (The 10-27 from Scarborough will also stop at Bempton). A visit will be paid to the egg "climbers," and after the contortions of "Old Dor" have been examined, the party will proceed to Thornwick Bay. Tea and meetings at the "Sea Birds" Hotel, Flamborough, at 4 o'clock.

**PERMISSION** to visit their properties has been kindly granted by Miss Cottrell Dormer, and T. G. Lloyd Greame, Esq.

**GEOLOGY.**—The Geological Section will be officially represented by its President, Mr. Cosmo Johns, F.G.S.; Secretary, Mr. E. Hawkesworth; the Coast Erosion Committee by Dr. F. F. Walton, F.G.S.; and the Boulder Committee by Mr. J. H. Howarth, J.P., F.G.S.

Mr. J. W. Stather, F.G.S., writes:—It is impossible to do justice to the Geology of Flamborough District within the limits of this circular. The following brief notes may, however, be of use:—

**Glacial Beds.**—Glacial deposits are in evidence almost everywhere on Flamborough Head, but the best sections are to be found on the south side near Bridlington, and in Filey Bay on the north side.

**Speeton Estuarine Shell Bed.**—At the base of the Glacial deposits on Middle Cliff Ridge at Speeton, an estuarine shell bed of muddy sand deserves examination. It has also recently been traced along the shore towards Reighton Gap, and seems to be of the same age as the buried-cliff beds of Sewerby.

**The Sewerby Buried Cliff.**—One of the most interesting sections of the whole coast-line occurs at the commencement of the Chalk, on the south side of the headland, and though obscured by slipped material, it has been better exposed during the early spring of this year than for many years past. It consists of an ancient cliff of chalk buried under glacial beds. From the deposits backed up against the old cliff, a large quantity of the fragmentary remains of mammals, fish, and birds have been obtained from time to time, and only a few weeks ago a fine elephant's tusk was obtained from the same locality.

**Upper Cretaceous Beds.**—With regard to the Chalk, the recent work done by Dr. A. W. Rowe and Mr. C. D. Sherborn has gone far towards working out the zonal sub-divisions (Proc. Geol. Assn., 1904), but much remains to be done by local observers. The authors identified the following zones in the cliffs on the south side of the headland. (a) *Actinocamax quadratus*. (b) *Marsupites testudinarius*. (c) *Micraster cor-anguinum*. The fossil sponges, for which the chalk of Flamborough Head is celebrated, will be found most plentifully between Sewerby and Danes' Dyke, and the bed of *Marsupites* in the cliff, two or three hundred yards west of Danes' Dyke. No flint occurs in the chalk cliffs on the south side of the headland, but nodules begin to appear at High Stacks, a little south of the Lighthouse. From Selwicks Bay to the high cliffs of Buckton, the sections are made up entirely of flinty chalk (zones of *Micraster cor-testudinarium*, *Holaster planus*, *Terebratulina gracilis*, and *Rhynchonella cuvieri*, according to Dr. Rowe). Under Buckton, the softer flintless lower chalk rises into the base of the cliff. The details of this portion of the Cretaceous series have been carefully worked out by Mr. W. Hill.

**Lower Cretaceous Beds.**—The Speeton clays come out from under the chalk escarpment at Speeton, and form for about a mile a low broken undercliff. Under favourable conditions, it is possible to trace a definite succession of zones, each containing fossils proper to it and not found elsewhere. More recently, Mr. C. G. Danford, of Reighton, has added considerably to our knowledge of this wonderful section.

The Coast Erosion Committee will hold a meeting with the Geological Section to consider their report. There is urgent matter now for consideration, since the Government is appointing a Royal Commission to take evidence and report.

A meeting of the Boulder Commission will be held.

**BOTANY.**—The Botanical Section will be officially represented by its Secretary (Mr. J. F. Robinson).

**Flowering Plants.**—Mr. J. F. Robinson writes:—Although not noted for

anything remarkable, still the flowering plants to be found in peregrinations round the top of the Flambro' Cliffs, into the depressions leading to the "wicks," or over the upland interior parts towards Bempton and Buckton are numerous and not uninteresting. One has not heard that any new records have been made since the publication in 1902 of the writer's "Flora of the East Riding of Yorkshire," from which the following extracts are made: In wet, clayey places on the headland, as near the lighthouse, *Ranunculus hederaceus* grows with the Grass of Parnassus and *Pinguicula*, the first, however, being the only species in flower at this season. *Ranunculus auricomus* grows near Danes Dyke, where also there is a record for *Aquilegia vulgaris* which should be verified if possible. *Cochlearia officinalis* abundantly and probably also *C. danica* grow on the chalk cliffs, and should be studied for their varieties. *Sisymbrium Sophia* (colonist or alien), has been gathered near Flamboro' Lighthouse, where also grows *Cerastium tetrandrum*, on the top of walls and cliffs. *C. semidecandrum*, with the little Whitlow Grass (*Erophila*), and *Saxifraga tridactylites* are frequent in chalky, gravelly places. *Geranium sanguineum*, *Vicia sylvatica*, *Rosa pimpinellifolia*—the last only in flower—are found near Speeton beck and towards Filey. *Anthriscus vulgaris*—a sand-preferring plant—is common near Flambro' Church. *Lactuca muralis*, a calcophile, is common in copses and beech woods. *Carlina vulgaris* and *Cnicus eriophorus*, two interesting thistles, are frequent. Dwarf forms of *Centaurium*. doubtfully *C. pulchella*, may be obtained. *Lamium amplexicaule* in cultivated ground is not uncommon, whilst its sister species, the red deadnettle (*L. purpureum*), is one of the dominant plants on the headland. The Carices, *C. verna* and *C. distans*, and probably others less common, may be gathered; but the native grasses, save *Agrostis palustris*, are not noteworthy. A little out of the district, namely, in the Boynton woods, *Clematis vitalba* and *Monotropa Hypopitys*, are still found; whilst on the sea-facing cliffs, *Crambe maritima* (sea kale), a former record, but now doubtfully present, should be eagerly looked for. Any special 'finds' would be welcomed.

**Mosses and Hepatics.**—The Yorkshire Bryological Committee will be officially represented by Mr. W. Ingham, B.A., and Mr. J. J. Marshall.

Mr. Ingham writes:—The best ground for these plants is Danes Dyke. On loose blocks of limestone on the side of the dyke grow the minute and rare *Seligeria paucifolia* and *S. calcarea*, known elsewhere in Yorkshire only at Goodmanham, near Market Weighton. Other mosses of the dyke are *Grimmia pulvinata*, *Fissidens adiantoides* var. *collinus* (on a grassy slope, the only known Yorkshire habitat for the variety), *Tortula muralis* (with hair points as long as leaves), *T. intermedia*, *Barbula unguiculata*, *Trichostomum crispulum*, *Zygodon viridissimus*, *Ulota phyllantha*, *Orthotrichum pulchellum* (the last three associated on a fallen tree), *Isothecium myurum*, *Brachythecium velutinum*, *Webera albicans*, *Cryphaea heteromalla* (found by Mr. Slater in June, 1894, and not recorded since; should be looked for on trees), *Eurhynchium proelongum*, *E. Swartzii*, *E. murale*, *E. confertum*, *Plagiothecium sylvaticum*, *Amblystegium serpens* var. *minus*, *A. Juratzkanum*, *A. filicinum*. The Hepatics noted at the same time as the above (Aug., 1899) are *Conocephalus conicus*, *Radula complanata*, *Frullania dilatata*, *Plagiochila asplenoides*, *Lophocolea bidentata*. I believe springtime will be even better than the autumn for these plants, both in the dyke and on the sea-cliffs.

Mr. Marshall writes:—The rare *Seligerias*, *paucifolia* and *calcarea* should be in good condition on the face of the chalk outcrops in Danes Dyke. Another rare moss (*Orthotrichum pulchellum*) will probably be noted, but too early for fruit. Other *Orthotrichums*, affine and *diaphanum*, occur on the trees with *Zygodon viridissimus* and the hepatics *Frullania dilatata* and *Radula complanata*. An extremely interesting moss (*Cryphaea heteromalla*) is recorded from Danes Dyke on the trunk of a tree, but there is reason to suppose the timber has been felled and the habitat destroyed. Another moss (*Ditrichum homomallum*) is recorded as the only station in East Yorkshire by the Rev. R. Fisher, late of Sewerby.

**Algæ.**—Mr. J. F. Robinson writes:—Neither the fresh water Algæ, which of course cannot be very numerous in this dry upland locality, nor yet the marine species, have been systematically investigated, although a large number of the latter have been gathered by the writer. If the ebb tide be followed the Lamarian zone may be reached and many interesting species of the three great classes of seaweeds—green, brown, and red—may be met with. In the shore and cave pools *Chylocardia articulata*, *Delesseria sanguinea*, *D. alata*, and *D. sinuosa*, *Plocamium coccineum*, *Laurencia pinnatifida*, *Ptilota sericea* or *plumosa*, with many more, say in Silex Bay or near North Landing at low water, will well reward the Algologist. The writer intends spending most of his time in this direction, and will be glad of companions in his search.

**Fungi.**—The Yorkshire Mycological Committee will be officially represented by its Secretary, Mr. C. Crossland, F.L.S.

Mr. Crossland writes:—Few Fungi appear to be on record for this immediate district. The nearest place which has received any attention in this part of Yorkshire is Boynton, 2½ miles west of Bridlington (see "The Naturalist," June and July, 1889). Careful search in suitable places will almost certainly be rewarded by additions to the Fungus Flora of S.E. Yorkshire.

**VERTEBRATE ZOOLOGY.**—The Vertebrate Section will be officially represented by its Secretaries—Mr. Alfred White, F.Z.S., and Mr. Riley Fortune, F.Z.S.

**Mammalia.**—Mr. Riley Fortune writes:—I have seen Fox, Rabbit, Hare, Field Mouse, Field Vole, Pipistrelle and Noctule Bats. Information upon the Bats especially would be very welcome.

**Birds.**—Flamborough is one of the most noted places in the British Isles for the occurrence of rare birds. Most species upon the British List are met with here during migration time. To give a list of "rarities" obtained would be of little service, as during the visit of the Union the migration period will be over, and only the usual resident species will be in evidence. The cliff birds will naturally claim most attention. At Flamborough proper only a small number are to be seen, but at the Bampton, Buckden, and Speeton Cliffs, to the north of Flamborough Head, immense numbers of birds will be nesting; and as the season will be at its height during the Union's visit, it will repay anyone to visit this neighbourhood for the purpose of seeing the birds and watching the "climbers" taking the eggs. Gullimots outnumber the other species to a great extent. Puffins and Razorbills are also abundant. Here also is the only Yorkshire colony of the beautiful Kittiwake. Other birds nesting in the cliffs are Rock Doves, Stock Doves, Jackdaws, Starlings, Tree Sparrows, House Martins, Sand Martins, and an odd pair or two of Carrion Crows. Herring Gulls will be noticed about the cliffs on the lock out for unprotected eggs. Inland many usual species are to be met with; no useful purpose will be served in enumerating them. The most characteristic bird is the Corn Bunting, which is plentiful, and in the patches of gorse on the cliff tops linnets are fairly common.

**Reptiles and Amphibia.**—There appear to be no records. I have seen Frog, Toad, and Lizard. Information upon the Snakes and Newts would be interesting.

**Fishes.**—The species obtained here are naturally marine, and it is not expected that much work can be done in this direction, therefore it is hardly worth while giving a list.

**CONCHOLOGY.**—The Conchological Section will be officially represented by Mr. Denison Roebuck, F.L.S.

**Land and Freshwater Mollusca.** (See list on circular No. 116).

**ENTOMOLOGY.**—The Entomological Section will be officially represented by its Secretary, Mr. W. Hewett, and Mr. G. T. Porritt, F.L.S.

**Lepidoptera.** (See list on circular No. 116).

**Coleoptera.**—The Yorkshire Coleoptera Committee will be officially represented by its Chairman, Mr. M. L. Thompson, F.E.S., and Secretary, Mr. E. G. Bayford.

Mr. M. L. Thompson writes:—Flamborough Head is very unproductive of interesting beetles. *Cercyon littoralis* and *Cafius xantholoma* are to be found among the seaweed on the shore, as I learn from the Rev. W. C. Hey. He has also met with *Rhagonycha fulva*, *Necrophorus ruspator*, *Harpalus ruficornis*, and *H. cneus*. Many years ago T. V. Wollaston took *Atomaria fmetarii*, *A. fuscipes*, *A. fuscata*, and *A. berolinensis* at Danes Dyke.

Mr. T. Stainforth writes:—To the coleopterist Flamborough Head itself will prove rather barren. For this district very few species have been recorded. These include among others *Pterostichus striola* F., *Geotrupes mutator* Marsh, *Meloe violaceus* Marsh, *Xantholinus glabratus* Grav., and *Barynetus elevatus*, Marsh. At Bridlington, however, a little to the south of Flamborough Head, so many interesting species have been found that a list of them would be quite beyond the scope of this circular.

#### PROGRAMME OF MEETINGS:—

|                                      |   |
|--------------------------------------|---|
| 4.0 p.m. prompt, Meat Tea, 1/6 each, | } At the "Sea Birds" Hotel,<br>Flamborough. |
| 4.45 p.m., Sectional Meetings,       |   |
| 5.0 p.m.—General Meeting,            |   |

In order that an early account of the excursion may appear in the "Naturalist," notes and reports should be forwarded before June 12th, to the Secretary of the Y.N.U., the Museum, Hull.



# Yorkshire Naturalists' Union.

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## President :

W. EAGLE CLARKE, F.R.S.E., Edinburgh.

## Ex-Presidents :

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Prof. PERCY F. KENDALL, M.Sc., F.G.S., Leeds.  
W. DENISON ROEBUCK, F.L.S., Leeds.  
A. H. PAWSON, J.P., F.L.S., F.G.S., London.  
G. W. LAMPLUGH, F.R.S., F.G.S., London.

## Divisional Secretary :

RILEY FORTUNE, F.Z.S., Lindisfarne, Dragon Road, Harrogate.

## Hon. Secretary :

T. SHEPPARD, F.G.S., Municipal Museum, Hull.

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## THE 195TH MEETING

WILL BE HELD AT

# HARROGATE,

FOR

FEWSTON and WASHBURN VALLEY,

ON

**Saturday, June 30th, 1906.**

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**RAILWAY ARRANGEMENTS.**—Through return tickets at pleasure party rates will be issued at all stations on the G.C., G.N., H. & B., L. & Y., L. & N.W., Midland, and N.E. Railways, which have booking arrangements for Harrogate to Members and Associates of the Y.N.U., surrendering the Certificate noted below. Tickets taken on Friday, June 29th, will be available for return on Monday, July 2nd. Where through bookings are not in operation Members may book to most convenient junction, and re-book to destination, the reduced fares being available for each stage of the journey.



**N.B.**—The Railway Booking Clerks will only grant these reduced fares to Members and Associates producing a Special Certificate signed by the Secretary of the Union. Members and Associates wishing for this Certificate must apply to Mr. Sheppard for it, and must enclose a stamped directed envelope and their current card of membership of the Union, which latter will be returned with the Certificate. At stations on the N.E. Rly. tickets at the reduced fares will be issued on production of the signed card of membership.

**BOOKS AND MAPS.**—The whole area is included in Sheets 92 N.E. and S.E., of the One-inch Ordnance Map, which may be obtained geologically coloured. See also Paper and Map "Geographical Distribution of Vegetation in Yorkshire, Part 2, Harrogate and Skipton District," by W. G. Smith and W. M. Rankin (Geog. Journal, August, 1903).

**THE DISTRICT** to be investigated is the upper portion of the Washburn Valley, especially that portion surrounding the reservoirs of Swinsty and Fewston.

**HEADQUARTERS.**—Hopper Lane Hotel, Blubberhouses, via Otley.

**ROUTES.**—Wagonettes meet trains at Harrogate station, start from station at 10-30 a.m., drive to Fewston via Stainburn Moors and Little Almais Cliff; members get off at the bottom of Swinsty reservoir and work up each side of the reservoirs to Blubberhouses.

Return fare by drags, 3/- each—about 16 miles drive there and back.

Geologists may, if they prefer it, go direct to Hopper Lane in the conveyances and work up the Kex Gill Pass, returning by Penny Pot Lane and Birk Crag.

**Members who intend being present should send word to the Local Secretary, in order that seats in conveyances may be arranged.**

**PERMISSION** to visit their properties has been kindly granted by the Leeds Corporation, W. J. Galloway, Esq., and Lord Walsingham.

**GEOLOGY.**—The Geological Section will be officially represented by its President, Mr. Cosmo Johns, F.G.S., and Mr. E. Hawkesworth, one of its Secretaries.

Mr. E. Hawkesworth writes:—Compared with the two previous meetings of this year, the district does not present any features of special interest to the geologist. The rocks of the whole area belong to the Millstone Grit series. The "shell bed" (Cayton Gill Beds), a fossiliferous marine band, between the Follifoot and Plompton Grits, is mapped around Fewston, and geologists are recommended to look for exposures of it, and record the fossils, also to examine any sections of shales which intervene with the beds of grit.

**BOTANY.**—The Botanical Section will be officially represented.

**Flowering Plants.**—Mr. W. G. Smith, Ph.D., writes:—This excursion is well adapted for the examination of the flora of woods on sandstones and shales. Lindley Wood, which extends along one side of the Leeds reservoir, is a typical oak wood with a varied undergrowth, which should at this season yield many interesting plants. Several other woods occur in the valley: these are either fairly pure oak or oak mixed with pine. The remainder of the route along the Washburn will give opportunity for observation of plants of the stream bank, and of old pastures. There is now no arable land in the valley, although formerly much of the land has been ploughed.

Mr. P. Fox Lee writes:—At this period of the year the botanists may be sure of an interesting day in the picturesque valley of the little river Washburn. In 1883, on the occasion of the Union's former visit to the Washburn Dale, the discovery was made of *Ceterach officinarum*, growing on Pool Bridge, and it

would be of interest to have the record confirmed after twenty-three years. In the early part of spring time there is to be seen here, about Swinsby and Lindley reservoir, a grand profusion of the real Lent-lily or wild daffodil (*Narcissus Pseudonarcissus*), perfectly indigenous, with its thousands of "single" lemon-yellow blooms. The following species occur in the valley, namely:—*Ranunculus Lenormandi*, *Stellaria nemorum*, *Genista anglica*, *Gnaphalium sylvaticum*, *Menyanthes trifoliata*, *Trientalis europæa*, *Galeopsis versicolor*, *Typha latifolia*, *Epipactis latifolia*, *Orchis incarnata*, *Listera cordata*, *Carex paniculata*, and thirteen Ferns, including *La-trova Oreopteris* and *spinulosa*, *Phegopteris polypodioides*, with the *Ceterach*, if still in evidence, and *Nitella flexilis*.

Mr. W. E. L. Wattam writes that the following plants were observed at Washburn Valley on July 19th, 1902:—*Potentilla anserina*, *Geranium pratense*, *Orchis maculata*, *Veronica beccabunga*, *Vicia sepium*, *Scrophularia nodosa*, *Valeriana officinalis*, *Arctia lappa*, *Myosotis palustris*, *Hypericum perforatum*, *Circea lutetiana*, *Bromus asper*, *Bromus sterilis*, *Avena flavescens*, *Glyceria fluitans*.

**Mosses and Hepatics.**—The Yorkshire Bryological Committee will be officially represented by Mr. W. Ingham, B.A.

Mr. W. Ingham writes:—The Fewston side of the Washburn Valley requires working for these plants. The Wharfe side has *Fissidens crassipes*, *F. rufulus*, *Amblystegium fluviatile*, *Eurhynchium crassinervium* and *Plagiothecium depressum* at Castley; *Rhabdoweisia fugax*, *Trichostomum tenuirostre* and *Leptodontium flexifolium* at Norwood, the last also at Almas Cliff; *Barbula Hornschuchiana* at Leathley, *Rhacomitrium heterostichum* var. *gracilescens* at Almas Cliff, *P. depressum* at Farnley (all the above recorded by G. B. Savery in "Naturalist," 1902). *Hylocomium loreum* is recorded for Washburn Valley.

Mr. L. J. Cocks recorded *Dicranella Schreberi* and its var. *elata* (Birk Crag, Harrogate), also *Schistostega osmundacea* and *Orthodontium gracile* at the same crag.

The *Hepatics* recorded for the Washburn Valley are *Lophocolea heterophylla*, *Plagiochila asplenioides*, and *Aneura multifida*. The above list indicates an interesting moss district, and it is fortunate for the bryologists that the excursion is fixed for the Fewston side of the valley.

**AFFORESTATION.**—The Leeds Corporation being owners of a great part of the Washburn Valley, have initiated an extensive scheme of afforestation of such of the moor-lands as are suitable. Work has already been definitely set out for several years, and during the past winter Swinsty Moor, about ninety acres, has been planted with a variety of trees. About a quarter of a million trees have been planted there, and nearly three-quarters of a million in the nurseries near. Some account of the work will be given by Mr. S. Margerison, one of the advisors of the Waterworks Committee, on the subject.

**Fungi.**—Mr. Crossland writes:—Few Fungi appear to be on record for this district. At the 1885 meeting the Rev. W. Fowler noted about thirty species. No systematic work has been done here in this branch of botany. Being unable to attend this excursion, I shall welcome any specimens that may be forwarded to me and will examine and report same.

**VERTEBRATE ZOOLOGY.**—The Vertebrate Section will be officially represented by Mr. Riley Fortune.

**Birds.**—Mr. Wm. Storey writes that Fewston is a favourite locality for birds, and many varieties are to be found, amongst others the following nest more or less regularly in the district:—Pied Fly Catcher, Hawfinch, Tree Sparrow, Reed Bunting, Goldfinch, Twite, Lesser Redpoll, Great, Blue, Cole, Marsh, and Long-tailed Tits, Lesser and Greater Spotted and Green Woodpeckers, Long-eared, Short-eared, Barn, and Tawny Owls, Stone Chat, Kestrel, Sparrow Hawk,

Merlin, Water Rail, Coot, Great Crested and Little Grebes, Redshank, Canada Goose, Dunlin, and Golden Eye. During the autumn and winter months many rare birds are seen, especially Ducks and Waders.

**Mammals.**—Mr. Storey records the following in the district:—Fox, Badger, Bank Vole, Field Vole, Lesser and Water Shrews, Long-tailed Field Mouse, Whiskered, Long-eared, Pipistrelle, Lesser Horse Shoe, Reddish Grey, and Noctule Eats.

**Reptiles & Amphibians.**—Mr. Storey writes that he has found the Adder, Slow Worm, Common Lizard, Common Newt, Frog, and Toad.

**Fishes.**—Mr. Storey has found the following in the Washburn and in the Reservoirs:—Brown Trout, Loch Leven Trout, Eel, Golden Tench (introduced by Lord Walsingham), Gudgeon, Minnow, Loach, Lamprey, and Bullhead.

**CONCHOLOGY.**—The Conchological Section will be officially represented by Mr. T. Castle, one of its secretaries.

**Land and Freshwater Mollusca.**—Mr. J. E. Crowther writes:—In the "Naturalist" for August, 1883, the following list of species is given for the district to be visited: *Arion ater*, *A. hortensis*, *Limax agrestis*, *L. arborum*, *Zonites excavatus*, *Z. cellarius*, *Z. nitidulus*, *Helix rufescens*, *H. rotundata*, *H. hortensis*, *H. pulchella*, *Limnea peregra*, *Ancylus fluviatilis*. The following additions were noted on the visit of the Union on August 6th, 1883: *Pisidium pusillum*, *Limnea auricularia*, *Limax laevis*, *Cochlicopa lubrica*.

**ENTOMOLOGY.**—The Entomological Section will be officially represented.

**Lepidoptera.**—Mr. W. E. L. Wattam writes that *Metrocampa margaritata* was observed at Washburn Valley, July 19th, 1902.

**Coleoptera.**—The Yorkshire Coleoptera Committee will be officially represented.

Mr. E. G. Bayford writes:—There are not many records of Beetles for the district under investigation. Perhaps the most systematic work in the order was done fifty years ago by Walton, and his researches were mainly confined to the *Rhynchophora*. *Apion frumentarium* Z., *A. rubens* Steph., *A. Spencii* Kirby are specially mentioned by him as having occurred at Harrogate.

**PROGRAMME OF MEETINGS:—**

|                                      |                                  |         |
|--------------------------------------|----------------------------------|---------|
| 4-0 p.m. prompt, Meat Tea, 1/6 each, | } At Hopper Lane Hotel, Blubber- |         |
| 4-45 p.m., Sectional Meetings,       |                                  | houses. |
| 5-0 p.m., General Meeting,           |                                  |         |
| 5-30 p.m., Drags for Harrogate.      |                                  |         |

|                   |                     |
|-------------------|---------------------|
| Traïns for South, | } Frequent service. |
| ,, North,         |                     |

In order that an early account of the excursion may appear in the "Naturalist," notes and reports should be forwarded before July 12th, to the Secretary of the Y.N.U., the Museum, Hull.

# Yorkshire Naturalists' Union.

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## President :

W. EAGLE CLARKE, F.R.S.E., Edinburgh.

## Ex-Presidents :

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H. CLIFTON SORBY, LL.D., F.R.S., etc., Sheffield.  
JOHN GILBERT BAKER, F.R.S., F.L.S., Kew.  
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ROBERT BRAITHWAITE, M.D., F.L.S., London.  
Prof. W. BOYD DAWKINS, M.A., F.R.S., Manchester.  
Prof. Sir MICHAEL FOSTER, K.C.B., Sec. R.S., Cambridge.  
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W. DENISON ROEBUCK, F.L.S., Leeds.  
A. H. PAWSON, J.P., F.L.S., F.G.S., London.  
G. W. LAMPLUGH, F.R.S., F.G.S., London.

## Divisional Secretary :

H. H. CORBETT, M.R.C.S., 9 Priory Place, Doncaster.

## Hon. Secretary :

T. SHEPPARD, F.G.S., Municipal Museum, Hull.

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## THE 196TH MEETING

WILL BE HELD AT

# ASKERN,

ON

## THURSDAY, JULY 12th, 1906.

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**RAILWAY ARRANGEMENTS.**—Through return tickets at pleasure party rates will be issued at all stations on the G.C., G.N., H. & B., L. & Y., L. & N.W., Midland, and N.E. Railways, which have booking arrangements for Askern or Kirk-Smeaton to Members and Associates of the Y.N.U., surrendering the Certificate noted below. Tickets taken on Wednesday, July 11th, will be available for return on Friday, July 13th. Where through bookings are not in operation Members may book to most convenient junction, and re-book to destination, the reduced fares being available for each stage of the journey.

**N.B.**—The Railway Booking Clerks will only grant these reduced fares to Members and Associates producing a Special Certificate signed by the Secretary of the Union. Members and Associates wishing for this Certificate must apply to Mr. Sheppard for it, and must enclose a stamped directed envelope and their current card of membership of the Union, which latter will be returned with the Certificate. At stations on the N.E. Rly. tickets at the reduced fares will be issued on production of the signed card of membership.



**BOOKS AND MAPS.**—The whole area is included in Sheets 78, 79, 87, and 88 of the One-Inch Ordnance Map, which may be obtained geologically coloured. Lankester's "Account of Askern and its Mineral Springs" (1842), contains a sketch of its geology (p.p. 34—50, with coloured map), botany (pp. 50—57), and zoology (pp. 54—72). What later information there appears to be is at pp. 212, 220, 374 of Davis and Lees' "West Yorkshire," also in Lees' "Flora of West Yorkshire." Copies of the circular of the meeting held at Askern 15th June, 1893, may still be had from the Secretary, price 3d., and full details of the observations then made will be found in the "Naturalist" for 1893, pp. 283—293. See also circular for the meeting held at Askern on May 28th, 1886.

**HEADQUARTERS.**—Askern Spa Hydro.

**ROUTES.**—

- I.—Askern to Campsall, Kirk-Smeaton, Little-Smeaton. This route will traverse interesting country for Botanists, Entomologists, and Geologists.
- II.—Askern to Burgwallis and Owston. Also interesting to all naturalists.
- III.—Smeaton Crag, etc. Members arriving at Kirk-Smeaton Station will do well to investigate the country bordering the River Went, and the Crag. Afterwards joining route I. at Little-Smeaton.
- IV.—Geologists (see Mr. Culpin's notes).  
Leaders will be found for all routes.

**PERMISSION** to visit their properties has been kindly granted by F. Bacon Frank, Esq., Campsall Hall; G. T. B. Yarborough, Esq., Campsmount.

**GEOLOGY.**—The Geological Section will be officially represented by its President, Mr. Cosmo Johns, F.G.S., and Messrs. H. Culpin and H. H. Corbett.

Mr. Culpin writes:—Askern is a good centre for the examination of the Permian Rocks, and the recent deposits of the southern extension of the Vale of York.

The recent deposits may be seen in the low lying lands on the east side of the district. There are several clay pits showing sections of blue warp. Peat beds are also numerous. On Rusby Moor, half-a-mile south-east of the town, the soil literally teems with a great variety of land and freshwater shells (*Planorbis*, *Limnaea*, *Hyalina*, *Helix*, etc., etc). These lie, conveniently for the collector, and conspicuous by their whiteness, on the dark peaty mole-hills that dot the surface.

It is, however, to the Permian series, and to some gravel pits lying on the same that the attention of members present at the meeting will be more particularly invited. The Permian Rocks are here divided into the Upper Magnesian Limestone, on which Askern is built; the Middle Marl, which is crossed by the charming field-path leading westward to Campsall (one mile); and the Lower Magnesian Limestone west of Campsall. In the Hampole Gorge, three miles south-west of Campsall, the Middle Coal Measures may be seen underlying the Lower Magnesian Limestone.

The Upper Magnesian Limestone is, as a rule, thin bedded and flaggy. In colour it varies from dull white to yellowish. A few miles further south, the top beds of the Upper Magnesian Limestone are fossiliferous, and it is hoped the same beds may be traced at this meeting.

The Middle Marl is red, with occasional mottled bands. It contains beds of gypsum, and thin layers of fine sand-stone and lime-stone.

The Lower Limestone is thick bedded and similar in colour to the Upper Limestone, except that some of it is more yellow and it more frequently contains black specks. It varies considerably in hardness. The bottom beds are fossiliferous, and near Hampole they yield large and fine specimens of *Schizodus*.

One of the "problems" of the district occurs in a large gravel pit to the south-west of the town. There are beds of sand on the denuded surface of which reposes a great thickness of coarse Magnesian Limestone Gravel, ranging from large sub-angular blocks to well-rounded small pebbles. At the Askern Meeting in 1893, Professor P. F. Kendall "expressed the opinion that the sandstone was probably of Permian age, and that the gravels were produced by the action of streams flowing over the Magnesian Limestone, during the Glacial period." (Mr. J. W. Stather's report, the *Naturalist*, October, 1893).

At Burghwallis, 1½ miles south-west by west of Askern is another gravel pit of well-rounded Magnesian Limestone Pebbles.

**BOTANY.**—The Botanical Section will be officially represented by Mr. H. H. Corbett.

**Flowering Plants.**—Mr. H. H. Corbett writes:—To the phanerogamic botanist there are few more interesting districts to be found in Yorkshire than that around Askern (*vide* Lankester's "Askern and its Waters," Davis & Lee's "West Yorkshire," and Lee's "Flora of the West Riding"). Among the rarer and more interesting species to be found in flower, or in the case of the *Cyperaceæ* in fruit, at this time of the year, may be mentioned *Ranunculus trichophyllus*, *R. Drouetii*, *R. floribundus*, *R. flammula*, *Thalictrum flavum*, *Nasturtium palustre*, *N. amphibium*, *Arabis hirsuta*, *Cerastium semidecandrum*, *Malva moschata*, *Geranium pyrenaicum*, *Anthyllis vulneraria*, *Vicia tetrasperma*, *Myriophyllum spicatum*, *Hippuris vulgaris*, *Pimpinella major*, *Oenanthe fistulosa*, *O. Lachenalii*, *O. Phellandrium*, *Silaus pratensis*, *Pastinaca sativa*, *Scandix pecten*, *Conium maculatum*, *Galium uliginosum*, *Asperula cynanchica*, *Scabiosa Columbaria*, *Eupatorium cannabinum*, *Inula Conyza*, *Picris hieracioides*, *Crepis taraxacifolia*, *Campanula glomerata*, *Anagallis tenella*, *Samolus valerandi*, *Utricularia vulgaris*, *Linaria minor*, *Calamintha Acinos*, *Nepeta cataria*, *Salvia Verbenaca*, *Rumex hydrolapathum*, *Typha angustifolia*, *Sparganium simplex*, *Zannichellia palustris*, *Potamogeton coloratus*, *Triglochin palustre*, *Orchis latifolia*, *Juncus supinus*, *J. obtusiflorus*, *Carex acuta*, *C. hirta*, *C. flava*, *C. distans*, *C. lævigata*, *C. ampullacea*, *C. riparia*, *Schenus nigricans*, *Scirpus Tabernemontani*, *Cladium Mariscus*, *Calamagrostis lanceolata*, *Sclerochloa rigida*, etc.

**Mosses and Hepatics.**—The Yorkshire Bryological Committee will be officially represented.

Mr. W. Ingham, B.A., writes:—The records of these plants are few in number, and it is a district that requires working. No Hepatics seem to have been recorded, and only the following Mosses:—*Barbula Hornschuchiana*, *Zygodon viridissimus*, *Eurhynchium murale*, *Fissidens adiantoides* (tall and fine growth), *Hypnum aduncum*, var. *typicum*, var. *falcata*, and *Hypnum intermedium* (fine growth). The last three grow in a field where there is a pump of Spa water, and the last rare moss, a very shy fruiter, is found in fruit. This field in the wet part is good moss ground.

**Fungi.**—The Yorkshire Mycological Committee will be officially represented by Mr. C. Crossland, F.L.S.

Mr. Crossland writes:—A Union Fungus Foray was held at Sutton near Askern in September, 1899, when 238 spp. were collected in the neighbouring woods and fields (*Naturalist*, December, 1899, pp. 367—372). Plants of this class being so very inconstant in their appearance, it is impossible to say what may or may not be found. Careful investigation will, however, most certainly add to those already on record for this district.

**MICRO-ZOOLOGY AND BOTANY.**—Mr. M. H. Stiles reports that in this department a fair amount of work has at various times been done, records of which will be found in the Excursion Programmes 1886 and 1893, and in the *Naturalist* for October, 1893, November 1900, and April 1906. Much more, however, remains to be done and advantage should be taken on this occasion, not only to verify old records, but also to establish new ones.

The Pool, the Pond near the Bog, and Wrancar Drain, are favoured localities for Diatoms. Those who visit Thorpe Brick Pond may hope to find *Volvox*, *Melicerta*, *Stephanoceras*, etc., whilst *Plumatella* has been met with in a Pond between Owston and Burgwallis.

The low-lying land near the Bog is of considerable interest, and an examination of the earth burrowed up by the burrowing Moles, will well repay the observer. In addition to many species of Fresh-water and Terrestrial Water Shells (*Limnæa*, *Planorbis*, *Helix*, etc.,) the soil will be found rich in Diatoms and in the spicules of the two British species of the Fresh-water Sponge (*Spongilla lacustris*, and *S. fluviatilis*), thus furnishing additional evidence of the lacustrine origin of the deposit.

**VERTEBRATE ZOOLOGY.**—The Vertebrate Section will be officially represented by Mr. Riley Fortune, F.Z.S.

**Mammals.**—Mr. R. Fortune writes:—There does not appear to be many records. At a previous meeting of the Union, I noted amongst others, Shrew and the Common and Red Field Voles. Records of Bats would be particularly interesting.

**Birds.**—The district is particularly well suited for Warblers, and most species may be met with, notably the Reed and Grasshopper Warbler; also the Nightingale and Wood Warbler. I have also seen the Hawfinch, Goldfinch, most of the Tits, the Common Bunting, Greater Spotted, and Green Woodpeckers, and many of the common species.

**Fishes.**—The “game” fishes do not appear to be represented, but several species of “scale” fishes may be noticed, the most local of which is the Ten-Spined Stickleback, others I have noticed are Pike, Rudd, Tench, Dace, Perch, and Three-Spined Stickleback. The Bream also occurs I believe.

**Reptiles and Amphibians.**—I have seen the Ringed Snake, Common Lizard, Slow Worm, Smooth Newt, Frog, and Toad.

**CONCHOLOGY.**—The Conchological Section will be officially represented.

**Land and Freshwater Mollusca.**—Mr. J. E. Crowther writes :—the following species of Mollusca were noted on the occasion of the Union’s visit on May 20th, 1886 :—*Sperium corneum*, *Unio tumidus*, *Anodonta cygnaea*, *Bythinia tentaculata*, *Valvata piscinalis*, *Planorbis albus*, *P. umbilicatus*, *P. carinatus*, *P. corneus*, *Limnaea peregra*, *L. auricularia*, *L. stagnalis*, *L. truncatula*, *Arion ater*, *A. hortensis*, *A. circumscriptus*, *Limax maximus*, *Agriolimax agrestis*, *A. lavis*, *Succinea putris*, *S. elegans*, *Vitrina pellucida*, *Zonites cellarius*, *Z. nitidulus*, *Z. crystallinus*, *Helix aspersa*, *H. nemoralis*, *H. cantiana*, *H. hispida*, *H. rotundata*, var. *alba*, *Bulinus obscurus*, *Pupa umbilicata*, *Clausilia rugosa*, *Cochlicopa lubrica*, *Carychium minimum*.

On the occasions of the Union’s visit on June 15th, 1893, the following additional species were noted :—*Zonites alliaria*, *Planorbis fontanus*, *P. vortex*, *Limnaea palustris*, *Velvetia lacustris*, *Bythinia leachii*, *Planorbis nautilus*, *Valvata cristata*, *Pisidium fontinale*, *P. pusillum*; *Viviparus coniectus* was also taken at Trumfleet Marshes.

On another visit I have taken *Helix virgata*.

**ENTOMOLOGY.**—The Entomological Section will be officially represented.

**Lepidoptera.**—Mr H. H. Corbett writes :—A good district for moths. Weather permitting, either “sugar” or light should pay well. Among the smaller species, Askern is noted for being the only inland locality, with the exception of Whittlesea Mere, for *Eupacilia vectisana*. This insect flies in little swarms on the bog between 5-30 and 6-30 p.m.

**Coleoptera.**—The Yorkshire Coleoptera Committee will be officially represented by Mr. M. L. Thompson, F.E.S., Mr. E. G. Bayford, and Mr. H. H. Corbett, M.R.C.S.

Mr. H. H. Corbett writes :—The marshes, ditches, and lanes around Askern are a very good hunting ground for beetle collectors. Among many other species noted in the locality are the following :—*Anchomenus oblongus*, *Olisthopus rotundatus*, *Stomis pumicatus*, *Pterostichus picimanus*, *Patrobus excavatus*, *Haliplus obliquus*, *H. fulvus*, *H. lineaticollis*, *Brychius elevatus*, *Deronectes 12-pustulatus*, *Ilybius ater*, *I. obscurus*, *Platambus maculatus*, *Agabus didymus*, *Gyrinus marinus*, *Enochrus bicolor*, *Tachyporus pallidus*, *Megacronus analis*, *Orypus brunnipes*, *Lesteva pubescens*, *Homalium vile*, *Eusphalerum primulae*, *Telmatophilus caricis*, *Mycetophagus 4-pustulatus*, *Triphyllus punctatus*, *T. suturalis*, *Elmis aeneus*, *Limnius tuberculatus*, *Dorcus parallelepipedus*, *Serica brunnea*, *Helodes minuta*, *Cyphon coarctatus*, *Malthinus balteatus*, *Dasytes plumbeus*, *D. plumbeo-niger*, *Scaphidema aeneum*, *Sciaphilus muricatus*, *Grypidius equiseti*, *Hydronomus alismatis*, *Cionus blattariae*, *Nanophyes lythri*, *Poophagus sisymbrii*, *Donacia vulgaris*, *D. sericea*, *Dyschirius globosus*, *Hbst.*, etc. See also list *Naturalist*, for 1893—p. 287—288.

**PROGRAMME OF MEETINGS :—**

|                                       |                        |
|---------------------------------------|------------------------|
| 4-30 p.m. prompt, Meat Tea, 1/6 each, | } At Askern Spa Hydro. |
| 5-30 p.m., Sectional Meetings,        |                        |
| 5-45 p.m., General Meeting,           |                        |

Trains for West leave 6-15 p.m., and 8-28 p.m.

,, South and East leave 6-37 p.m., and 9-20 p.m.

In order that an early account of the excursion may appear in the “Naturalist,” notes and reports should be forwarded before July 20th, to the Secretary of the Y.N.U., the Museum, Hull.



# Yorkshire Naturalists' Union.

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## President :

W. EAGLE CLARKE, F.R.S.E., Edinburgh.

## Ex-Presidents :

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H. CLIFTON SORBY, LL.D., F.R.S., etc., Sheffield.  
JOHN GILBERT BAKER, F.R.S., F.L.S., Kew.  
Rt. Hon. LORD WALSHINGHAM, M.A., F.R.S., Thetford, Norfolk.  
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Prof. PERCY F. KENDALL, M.Sc., F.G.S., Leeds.  
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A. H. PAWSON, J.P., F.L.S., F.G.S., London.  
G. W. LAMPLUGH, F.R.S., F.G.S., London.

## Hon. Secretary :

T. SHEPPARD, F.G.S., Municipal Museum, Hull.

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## THE 197TH MEETING

Of the Union will be held,

In connection with the British Association,

AT

# GOATHLAND,

WHITBY AND COAST TO SCARBOROUGH,

ON

## August Bank Holiday Week-end,

August 4th to 6th, 1906.

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All parties leave York on Saturday Morning by the 9-7 train for Goathland, thence along the edge of the Moors to Egton, where tea will be provided (about 1/6), then train to Whitby, where arrangements are being made for hotels, etc.

On Sunday morning the party starts at the Station, Whitby, at 1-0 o'clock by motor cars or char-a-bancs (fare about 5/-), for Foulisike, Blacksmith's Hill, Falcon Inn, and Scarborough. Monday's arrangements will depend upon the papers, etc., which may be arranged for that date, probable route will be to Filey by autocars.

Messrs. P. F. Kendall, F.G.S., and W. G. Smith will accompany the party.

**Those intending to be present must send a post card by return to Mr. M. B. Cotsworth, Acomb, York.**

The usual cheap week-end and railway reduced fares will be in operation.





# Yorkshire Naturalists' Union.

President :

W. EAGLE CLARKE, F.R.S.E., Edinburgh.

Divisional Secretary :

J. J. BURTON, Nunthorpe, R.S.O., Yorkshire.

Hon. Secretary :

T. SHEPPARD, F.G.S., Municipal Museum, Hull.

## THE 198TH MEETING

WILL BE HELD AT

# GUISBOROUGH,

ON THE

## Week-end, August 18th to 20th, 1906.

**RAILWAY ARRANGEMENTS.**—Through return tickets at pleasure party rates will be issued at all stations on the G.C., G.N., H. & B., L. & Y., L. & N.W., Midland, and N.E. Railways, which have booking arrangements for Guisborough to Members and Associates of the Y.N.U., surrendering the Certificate noted below. Tickets taken on Friday, August 17th, will be available for return on Tuesday, August 21st. Where through bookings are not in operation Members may book to most convenient junction, and re-book to destination, the reduced fares being available for each stage of the journey.

**N.B.**—The Railway Booking Clerks will only grant these reduced fares to Members and Associates producing a Special Certificate signed by the Secretary of the Union. Members and Associates wishing for this Certificate must apply to Mr. Sheppard for it. At stations on the N.E. Rly. tickets at the reduced fares will be issued on production of the signed card of membership.

**THE DISTRICT** to be investigated includes the area lying between Roseberry Topping, Kildale, High Cliff, and Slapewath.

**BOOKS AND MAPS.**—The whole area is included in Sheet 34. See P. F. Kendall's "Glacier Lakes in the Cleveland Hills," "Quarterly Journal" Geol. Soc., 1902, and Proc. Yorks. Geol. Soc., 1903; Phillips' "Geology of Yorkshire," J. G. Baker's "North Yorkshire," T. Sheppard's "Geological Rambles in East Yorkshire," "The Jurassic Rocks of Britain; Yorkshire," by C. Fox Strangways, and Tate & Blake's "Yorkshire Lias."

**HEADQUARTERS.**—Buck Hotel, Guisborough.

**ACCOMMODATION** will be provided by Mrs. Pybus at the Buck Hotel, Guisborough, in strict order of application. Outside sleeping accommodation will be arranged for those for whom no room can be found at the hotel.

Terms: Bed, Breakfast, and Dinner, 7/- per head.

**EVENING MEETINGS.**—A Meeting will be held on Saturday at the Buck Hotel at 7-0 p.m. Mr. Cosmo Johns, F.G.S., will read a paper, illustrated by maps and diagrams, on "Jurassic Ironstone Deposits of Great Britain." Dr. H. C. Sorby, F.L.S., will contribute "Notes on the Origin of the Cleveland Ironstone," and Mr. M. B. Cotsworth will read a paper on "The Continuous Glacial Period"

**ROUTES.**—On Saturday morning the members will start from Guisborough Market Place for Highcliffe and Roseberry, where they will note the terrace formation of the hill, caused by the alternating hard and soft shales and beds of the Lias. They will then examine the Cleveland Whin Dyke, which cuts through a shoulder of Roseberry, and has been extensively quarried here. The return will be by way of Hutton if time serves, or by train from Great Ayton.

On Monday the members remaining over the week-end will arrange the routes to be traversed, but it is hoped that some of the sections will cross the moor to Kildale Woods which were such a happy hunting ground to the late Rev. John Hawell.

Members who cannot reach Guisborough before 10-9 a.m. on Saturday should alight at Hutton Junction, where Mr. T. A. Lofthouse will meet them and conduct them to the earlier party.

**Ironstone Mine.**—By the kindness of the owners the members of the Union have permission to visit the Spawood Ironstone Mine on Monday, the 20th. The manager, Wm. Charlton, Esq., will conduct visitors over the workings. Any one desiring to avail themselves of the privilege should advise the Divisional Hon. Sec. by letter, so that he may make the necessary arrangements.

**PERMISSION** to visit their properties has been kindly granted by Miss Staveley and Captain R. B. Turton.

**GEOLOGY.**—The Geological Section will be officially represented by Mr. Cosmo Johns, F.G.S., its President.

Dr. W. Y. Veitch writes:—Middle Oolite (Kellaways Rock) is exposed on the Guisborough Moor, near Gerrick, a little over three miles S.E. of that town. With the exception of Hob Hill near Saltburn, which rises no higher than the Upper Lias, all the surrounding hills are capped with Lower Oolite, below which is the Dogger. Guisborough itself is built upon the Middle Lias, and is the centre of a large ironstone mining industry. Formerly its chief source of revenue was from the manufacture of alum, from alum shale (*A. communis* zone), and occasionally from jet rock (*A. serpentinus* zone). The ironstone is obtained from the *spinatus* zone of the Middle Lias. At Eston the beds measure 24-feet, with ironstone 15-feet 2-inches in thickness. From this point the ironstone becomes inferior in quality, the seam becomes split up with interlying bands of shale. At Ayton there is exposed the most interesting feature of the district, that is the Cleveland Whin Dyke. Here it is 80-feet thick at the base of the hill (Roseberry Topping), whilst at the surface exposure at a height of 350-feet it is only 20-feet thick. The dyke is first noticed at Sneaton High Moor and extends in a fairly straight direction to Coatham Beck near Stockton, crossing the Tees at Eaglescliffe. It is an augite andesite (see Teall's British Petrography). Roseberry Topping is typical of the neighbouring hills, excepting for the absence of the Dogger. Both it and Hob Hill are out-liers. Roseberry is 1,057-feet high, and Captain Cook's Monument, Easby Moor, 1,064-feet. The top of Roseberry is a mass of Oolite, followed by zones of *A. communis*, *serpentinus*, *annulatus*, *spinatus*, *margaritatus*, *capricornus*, and *jamesoni*, upon which the village of Newton rests.

**Glacial Phenomena.**—This has been fully dealt with with by Professor Kendall.

Mr. Frank Elgee writes:—At Bold Venture, at 800 feet, occur gravel mounds with Cheviot Porphyrites, indicating a glacier lake overflow down Sleddale. Erratics are even found on Newton Moor at a height of 1,000 feet. When the ice began to retreat a small lake was held up in High Bonsdale, the overflow falling westward at 675 feet. As the ice melted backward a great overflow out of the Boosbeck Valley into the Guisborough valley was initiated, forming the Slapwath Gorge (600-425). The whole of the Vale of Guisborough is covered with drift which must be of great thickness. As the ice melted from the Guisborough Valley the melting front initiated two channels. The westerly one is near Normanby Intake Plantation, and perhaps leads from the head of Moordale. Its intake level is 625 feet, but it cuts through the 650 feet contour. The second is the grand gorge of Scugdale Slack, certainly as fine a piece of glacial erosion as can be found in Cleveland. It contains little or no stream, and the intake level is 523 feet, cutting clean through the hill where it is about 50 feet deep. It rapidly becomes deeper and steeper until where it emerges into the Guisborough Valley it is about 200 feet deep. From its outflow a wide flat-floored trench in the drift can be seen sweeping down the valley to the westward between Grove Hill and Windy Hill. I have traced it as far as Lowcross House. It is about 25 feet deep near the Chaloner Pit Railway.

**BOTANY.**—The Botanical Section will be officially represented.

**Flowering Plants.**—Mr. J. G. Baker, F.R.S., F.L.S., writes:—The district is not rich in rare phanerogamia, the hills are not high enough to produce many boreal species. There is no limestone, and the sandstone of the hill-top, and the shales, and ironstone of the hill-slopes, do not favour the growth of the southern types. Newton Wood, on the outer flank of Roseberry Topping, is the original Station for *Rosa hibernica* var. *glabra* Baker, which is regarded by Crepin as a natural hybrid between *R. spinosissima* and *R. canina*. *Trientalis europæa*, was gathered by Ray on Freeburgh Hill, 250 years ago, and is not uncommon in Ratsdale. The best walk is along the slope of the Hill under Highcliffe, and through the Hutton Locras Plantations to Roseberry Topping, dropping down to Ayton Station, and returning to Guisborough by way of Newton. Along these hill-slopes grows *Geranium sylvaticum*, *Rubus selmeri*, *R. newbouldii*, *Hieracium tridentatum*, *Juniperus communis* and *Cephalanthera ensifolia*. A branch of Sledale grows *Hypericum elodes*, *Myriophyllum verticillatum*, *Scirpus pauciflorus* and *Carex teretiuscula*, *Narcissus incomparabilis* is naturalised in a field near Guisborough

Spa, and in the valley of the stream that rises near Guisborough, and runs past Upleatham to Saltburn, may be found *Rosa spinosissima*, *R. sabini* and *Iris foetidissima*, remarkable for its bright red seeds.

Mr. John Farrah, F.L.S., writes:—I should like to draw the attention of all lovers of nature to the magnificent horse-chestnut (*Aesculus Hippocastanum*), that grows in the Priory grounds. It is a remarkable specimen, owing to the fact that it has the habit of the banyan tree. The branches from the original trunk have been trained, I presume, to reach the ground, then they have been pegged down and have taken root at the nodes, and sent up another trunk; this process is repeated three times. Lovers of trees will have a treat in admiring and examining this unique object of beauty, also in walking under the shade of the magnificent avenue of limes in the same grounds. This part of Cleveland is specially adapted to the development of grand trees. At Stokesley and in its immediate vicinity there are magnificent specimens of the oak, ash, elm, willow, and alder. By all means every one who attends this 198th meeting should go to the top of Roseberry Topping. Words are inadequate to express the feelings and thoughts that are inspired by the view from this point of vantage.

**Mosses and Hepatics.**—The Yorkshire Bryological Committee will be officially represented by Mr. M. B. Slater, F.L.S.

**Mosses.**—Mr. J. G. Baker, F.R.S., F.L.S., writes:—The neighbourhood has been well worked for Mosses by Mr. Richard Barnes, formerly of Saltburn, now of Harrogate, and by the late Mr. William Mudd. The following are the principal varieties found on Guisborough Moor, Roseberry Topping, and the Highcliffe Woods, viz.:—*Andreaea petrophila*, *Georgia pellucida*, *Tetradontium Brownianum*, *Pogonatum alpinum*, *Pleuridium axillare*, *Ditrichum homomallum*, *Dicranella crispata*, *D. secunda*, *Anisothecium rufescens*, *A. squarrosum*, *Brachydontium trichodes*, *Campylopus fragilis*, *Dicranum scottii*, *D. fuscescens*, *Tortula angustata*, *Barbula lurida*, *Glyphomitrium saxicolium*, *Pleurozygodon æstivus*, *Orthotrichum Lyelli*, *O. tenellum*, *O. rivulare*, *Bartramia ithyphylla*, *Amblystegium stramineum*, *Hypnum rivulare*, *H. trichoides*, *Plagiothecium latebricolum*, *Sphagnum papillosum*, *S. squarrosum*, *S. recurvam*, *S. rufescens*, *S. Girgensohnii*, *S. quinquefarium*, *S. fimbriatum*.

Mr. M. B. Slater writes:—It is not a very good time of the year for collecting mosses except upon boggy, hilly ground.

**Hepaticæ.**—Mr. J. G. Baker, F.R.S., F.L.S., writes:—The rare Hepaticæ of the neighbourhood are *Jungermannia obovata*, from Guisborough Moor, *Jungermannia Tamarisci*, *J. spherocarpa*, *J. gracilis*, and *Nardia Genthiana*, from Highcliffe, and *Cephalozia lunulæfolia*, and *Jungermannia turbinata*, from Guisborough Beck.

**Lichens.**—Mr. J. G. Baker, F.R.S., F.L.S., writes:—The district has been well worked for Lichens by the late Mr. William Mudd, author of a "Manual of British Lichens," who lived at Great Ayton before he became Curator of the Cambridge Botanic Gardens. The principal varieties are, on Highcliffe, *Ramalina polymorpha*, *Gyrophora polyphylla*, *Cetraria sepincora*, *Lecidea goniophila*, and *Arthonia trachylioides*; on Guisborough Moor, *Solorina limbata*, *Lecanora epibryon*, *Raphiospora arenicola*, and *Lecidea iridescens*; on Roseberry Topping, *Ramalina polymorpha*, *Callospisma flavo irrescens*, *Lecanora badia*, *Bialarelli polymelana*, and *Lecidea expansa*; and in Newton Wood, *Shmatidium Hutchinsie*, *Callospisma chlorinum*, *Lecidea vitellinaria*, *Opegrapha saxatilis*, *O. Chevallerii*, *O. rupestris*, *O. pulverulenta*, *Arthonia impolita*, *A. vinosa*, *Calicium semoneum*, and *C. chlorellum*.

**Fungi.**—The Yorkshire Mycological Committee will be officially represented by Mr. C. Crossland, F.L.S.

Mr. Crossland writes:—There are no records of fungi for this neighbourhood, so that it will be practically new ground to this section. Members who attend the meeting will confer a favour on the writer if they will pick up such portable fungi as they meet with and pass them on to him.

**VERTEBRATE ZOOLOGY.**—The Vertebrate Section will be officially represented by the President, Mr. T. H. Nelson, M.B.O.U.

**Birds.**—Mr. C. E. Milburn writes:—I am afraid I cannot mention any very scarce species as being breeders in the Guisborough district. However, the following species may be met with which are not usually abundant:—Stonechat, Ring Ousel, Wood Wren, Grasshopper Warbler, Hawfinch, Jay, Magpie, Carrion Crow, Nightjar, Green Woodpecker, Great Spotted Woodpecker, Kingfisher, Cuckoo, Long-eared Owl, Barn Owl, Tawny Owl, Kestrel, Sparrow Hawk, Woodcock, and Sandpiper. The above are all breeders in the district to my knowledge.

**CONCHOLOGY.**—The Conchological Section will be officially represented.

Mr. Baker Hudson writes:—The following species are more or less common throughout the district mentioned, though some are more local than others:—



*Limax maximus*, *L. flavus*, *L. marginatus*, *Agriolimax agrestis*, *A. laevis* (in damp woods), *Arion ater*, *A. subfuscus*, and *A. fasciatus*. *Vitriina pellucida*, *Zonites cellarius*, *Z. glaber*, *Z. alliarius*, *Z. nitidulus*, *Z. radiatulus*, *Z. purus*, and var. *crystallinus*, *Z. fulvus* and *Z. nitidus* (near Kildale). *Helix rotundata*, *H. lamellata* (abundant, Kildale, with *H. pygmaea* and *Pupa anglica*). *H. pygmaea*, *H. aculeata* (Airey Holme, Kilton, and Kildale). *H. cantiana* (on or near railway banks near Kildale, and Cross Keys public house, on the turnpike between Guisborough and Middlesborough. This species is probably alien). *H. fusca* (Tocketts and Kildale), *H. granulata* (Kilton), *H. hispida*, *H. arbustorum* (I believe confined to wooded parts not approaching the sea except in Saltburn Glen), *H. nemoralis*, *H. hortensis* (very local: Skelton Valley, Tocketts, Ingleby Greenhow), *H. aspersa*, *Buliminus obscurus* (Ayton, Kildale, Kilton), *Pupa umbilicata*, *P. anglica* (Kildale, abundant), *Vertigo edentula* (Airey Holme, Kildale, Tocketts, Waterfall Wood, Guisborough), *V. substriata* (Tocketts, Waterfall Wood, Guisborough), *V. pusilla* (Skelton Ellers), *V. pygmaea* (Ingleby Greenhow, Skelton Ellers), *Balea perversa* (Kildale), *Clausilia laminata*, *C. rugosa*, *Zua*, *Azeca* (Kildale, Kilton, Tocketts), *Succinea putris*, *S. elegans* (Ingleby Greenhow), *Carychium*, *Ancylus fluviatilis*, *A. lacustris* (ponds Ayton and near Kildale), *Limnaea pereger*, *L. truncatula*, *Planorbis albus* (Ayton), *P. nautilus* (Guisborough), *P. vortex*, *P. spirorbis*, *Physa*, *Anodonta cygnea* (Guisborough), *A. anatina* (Rivers Tame and Leven), *Sphaerium corneum*, *S. lacustre* (Guisborough), *Pisidium amnicum*, *P. fontinale* and *P. pusillum* occur very generally in streams running from Roseberry and Slapewath districts. The following require confirmation:—*Limax cinereo-niger* (Tocketts), *H. arbustorum* (north of Upleatham and Eston Hills). Speaking generally, I have found the largest number of species as well as of individuals on the outcrops of the strata along the sides of the wooded hills.

Mr. W. Denison Roebuck, F.L.S., adds:—Speaking generally the immediate neighbourhood of Guisborough is one of the least worked districts of Yorkshire, very little attention having been paid to it by conchologists. But it offers a promising field for investigation, inasmuch as on a Y.N.U. visit to Kildale such species turned up as *Helix lamellata*, *Pupa ringens* (*anglica*), *Limax cinereo-niger*, etc., and a careful detailed and systematic search cannot but yield good results, weather being favourable.

**ENTOMOLOGY.**—The Entomological Section will be officially represented by Mr. T. A. Lofthouse.

**Lepidoptera.**—Mr. Lofthouse writes:—

The Guisborough meeting has possibilities for entomologists, seeing that old records are given in the Yorkshire List (Porritt), for such species as *D. bicuspis* (several), *A. alni*, *G. rubricollis*, all very desirable specimens for a northern entomologist. The district is a varied one, and one that should be well worth vigorous working. There are extensive and varied woods, and a large expanse of fine moorland. The locality has not been worked much by Cleveland entomologists for many years. The following, among other species, have been taken at Guisborough or in the immediate neighbourhood in odd visits that have been made during the past few years:—*S. ligustri*, *A. mendica*, *B. rubi* and *callunae*, *S. pavonia*, *N. chaonia*, *dromedarius*, *ziczac*, *camelina* and *dictyoides*, *A. agathina*, *A. herbida*, *A. nebulosa*, *C. xerampelina*, *V. cambrica*, *O. filigrammaria*, *Eup. pygmaea*, etc.

**Coleoptera.**—The Yorkshire Coleoptera Committee will be officially represented by Mr. M. L. Thompson, F.E.S.

Mr. M. L. Thompson writes:—Many interesting beetles are to be found on the Moorland in the vicinity of Guisborough, among them being *Carabus arvensis*, *Miscodera arctica*, *Bradycellus cognatus*, *Pterostichus vitreus*, *Bembidium nigricorne*, *Trechus rubens*, *Hydroporus melanarius*, *H. morio*, *H. tristis*, *H. obscurus*, *Rhantus bistriatus*, *Tachinus laticollis*, *Philonthus scutatus*, *Staphylinus erythropterus*, *Geodomicus nigrita*, *Hydnobius punctatus*, *Coccinella hieroglyphica*, *Podabrus alpinus*, *Haltica erceti*, *Salpingus ater*, *Ceuthorrhynchus ericae*, *Myelophilus piniperda*, *Limnobaris T-album*.

**PROGRAMME OF MEETINGS:—**

Saturday—5-30 p.m. prompt, Meat Tea, 1/6 each.

6-10 p.m., Sectional Meetings.

6-25 p.m., General Meeting.

6-48 p.m., Train leaves for York, Leeds, etc.

In order that an early account of the excursion may appear in the "Naturalist," notes and reports should be forwarded before August 31st, to the Secretary of the Y.N.U., the Museum, Hull.

# Yorkshire 'Naturalists' Union.

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## President :

W. EAGLE CLARKE, F.R.S.E., Edinburgh.

## Ex-Presidents :

Rev. Wm. FOWLER, M.A., Liversedge.  
H. CLIFTON SORBY, LL.D., F.R.S., etc., Sheffield.  
JOHN GILBERT BAKER, F.R.S., F.L.S., Kew.  
Rt. Hon. LORD WALSHINGHAM, M.A., F.R.S., Thetford, Norfolk.  
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GEORGE T. PORRITT, F.L.S., F.E.S., Huddersfield.  
Prof. PERCY F. KENDALL, M.Sc., F.G.S., Leeds.  
W. DENISON ROEBUCK, F.L.S., Leeds.  
A. H. PAWSON, J.P., F.L.S., F.G.S., London.  
G. W. LAMPLUGH, F.R.S., F.G.S., London.

## Hon. Secretary :

T. SHEPPARD, F.G.S., Municipal Museum, Hull.

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## THE 199TH MEETING

WILL BE HELD AT

# Farnley Tyas, near Huddersfield,

## For a Fungus Foray,

## From Saturday, Sept. 22nd, to Thursday, Sept. 27th, 1906.

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### Chairman of Mycological Committee :

GEORGE MASSEE, F.L.S., F.R.H.S., of the Royal Herbarium, Kew.

### Hon. Sec., Mycological Committee :

CHAS. CROSSLAND, F.L.S., 4 Coleridge Street, Halifax.

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**RAILWAY ARRANGEMENTS.**—Through return tickets at pleasure party rates will be issued at all stations on the G.C., G.N., H. & B., L. & Y., L. & N.W., Midland, and N.E. Railways, which have booking arrangements for Huddersfield to Members and Associates of the Y.N.U., surrendering the Certificate noted below. Tickets taken on Friday, Sept. 21st, will be available for return on Friday, Sept. 28th. Where through bookings are not in operation Members may book to most convenient junction, and re-book to destination, the reduced fares being available for each stage of the journey.

N.B.—The Railway Booking Clerks will only grant these reduced fares to Members and Associates producing a Special Certificate signed by the Secretary of the Union. Members and Associates wishing for this Certificate must apply to Mr. Sheppard for it. At stations on the N.E. Rly. tickets at the reduced fares will be issued on production of the signed card of membership.

**PERMISSION** to visit their estates has been kindly granted by Lord Dartmouth and the West Riding County Council.

**THE AREA** to be investigated includes Royd House, Mollicar, Hey, Storthes Hall, and other woods.

**HEADQUARTERS** will be at the Golden Cock Inn, Farnley Tyas, about  $4\frac{1}{2}$  miles from Huddersfield. The usual terms have been arranged for bed, breakfast, out-lunch and dinner. On the opening day, Saturday, Sept. 22nd, conveyances will meet trains arriving at Huddersfield up to 2-30 p.m. to carry passengers and luggage direct to headquarters; seats must be booked, through Mr. Crossland, not later than September 18th. Parties arriving later, or on any subsequent day, will please make their own arrangements for reaching Farnley Tyas. The terminus of the Huddersfield and Almondbury tramway is within  $2\frac{1}{2}$  miles distant. The accommodation at the Inn and in the village being very limited, it is probable that some of those who attend the foray will have to seek sleeping accommodation in Huddersfield. Applications for accommodation at Farnley Tyas must be made to Mr. Crossland.

**ROUTES.**—There will be a short foray on the Saturday afternoon in the immediate neighbourhood. Each day's investigations will be selected according to circumstances. The excursions will set out each morning about 10 o'clock.

Members of Local Natural History Societies are particularly requested to bring or send specimens from their several localities in order to make the exhibition typical of the Fungus Flora of the Huddersfield and adjoining districts.

Consignments of fungi from any part of Yorkshire will be welcome, and will receive every attention; a list of the species sent will be returned if desired. The specimens should be carefully packed with grass or moss (not paper) in suitable boxes and addressed to the Secretary, Mycological Committee, the Golden Cock Inn, Farnley Tyas, near Huddersfield.

Arrangements will be made for the exhibition of the specimens gathered, or sent, each day. They will be laid on tables and labelled in the order in which they appear in the Yorkshire Fungus Flora. A large well lighted room has been secured for this purpose. All necessary books and microscopes will be available.

Stereoscopic and other photographs, and coloured drawings of fungi will be on exhibit.

On Monday evening, Mr. Massee will give an address on "Modern Mycologists."

On Tuesday evening, Mr. Harold Wager, F.R.S., will speak on "Recent Researches on Reproduction in the Fungi."

The usual business meeting of the Mycological Committee will be held on the Wednesday evening.

# Yorkshire Naturalists' Union.

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## President :

W. EAGLE CLARKE, F.R.S.E., Edinburgh.

## President-Elect :

C. CROSSLAND, F.L.S., Halifax.

## Ex-Presidents :

Rev. Wm. FOWLER, M.A., Liversedge.  
H. CLIFTON SORBY, LL.D., F.R.S., etc., Sheffield.  
JOHN GILBERT BAKER, F.R.S., F.L.S., Kew.  
Rt. Hon. LORD WALSHINGHAM, M.A., F.R.S., Thetford, Norfolk.  
Rev. W. H. DALINGER, LL.D., F.R.S., etc., London.  
Sir RALPH PAYNE GALLWEY, Bart., M.B.O.U., Thirkleby Park.  
WILFRID H. HUDDLESTON, M.A., F.R.S., London.  
HENRY EELES DRESSER, F.L.S., F.Z.S., London.  
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WILLIAM WEST, F.L.S., Bradford.  
GEORGE T. PORRITT, F.L.S., F.E.S., Huddersfield.  
Prof. PERCY F. KENDALL, M.Sc., F.G.S., Leeds.  
W. DENISON ROEBUCK, F.L.S., Leeds.  
A. H. PAWSON, J.P., F.L.S., F.G.S., London.  
G. W. LAMPLUGH, F.R.S., F.G.S., London.

## Hon. Secretary :

T. SHEPPARD, F.G.S., Municipal Museum, Hull.

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## THE 200TH MEETING

AND

## 45th ANNUAL MEETING,

WILL BE HELD AT

# YORK,

Including an Excursion to ACOMB, for the British  
Botanical Association's Grounds,

ON

## SATURDAY, December 15th, 1906.

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**RAILWAY ARRANGEMENTS.**—Through return tickets at pleasure party rates will be issued at all stations on the G.C., G.N., H. & B., L. & Y., L. & N.W., Midland, and N.E. Railways, which have booking arrangements for



York to Members and Associates of the Y.N.U., surrendering the Certificate noted below. The Tickets will be issued on Friday and Saturday, the 14th and 15th December, and will be available for returning up to and including Monday, December 17th. Where through bookings are not in operation Members may book to most convenient junction, and re-book to destination, the reduced fares being available for each stage of the journey.

N.B.—The Railway Booking Clerks will only grant these reduced fares to Members and Associates producing a Special Certificate signed by the Secretary of the Union. Members and Associates wishing for this Certificate must apply to Mr. Sheppard for it. At stations on the N.E. Rly. tickets at the reduced fares will be issued on production of the signed card of membership.

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## PROGRAMME.

At 11=30 a.m. prompt start from the entrance gates of the Museum for Holgate, where the members will be conducted round the premises of the British Botanical Association.

Luncheon 12=30 to 2=30 p.m. at the Davy Hall, Davygate, 1/6 each.

The 45th Annual Meeting will be held at the Museum at 3 o'clock.

### 3=0 p.m.—Sectional Meetings

(which all members and associates are entitled to attend) will be held for the election of Officers of Sections, and to receive the Annual Reports from their Secretaries.

### 3=30 p.m.—The General Committee

(each member of which receives a special summons with this circular) will meet to consider the Annual Report, elect Officers, and arrange the Excursion Programme for 1907.

### 5=15 p.m.—A Meat Tea

1/6 each, will be served in the Davy Hall, Davygate.

### 7=15 p.m.—The General Meeting

of members and associates will be held. The Chair will be taken by the President of the Union, supported by prominent members. After the reading of the Annual Report and the announcement of the Excursion Programme for 1907,

7=30—8=30.—The Presidential Address, entitled "Bird Life in the Antarctic" (illustrated by lantern slides), will be delivered by Mr. W. Eagle Clarke.

During the delivery of the Address the Chair will be occupied by Mr. F. Sidney Gramshaw, M.D., F.R.C.S.

8=30 p.m. to 10=30 p.m., after the delivery of the Presidential Address, the members of the York and District Field Naturalists' Society invite the members and associates of the Union to

## A Conversazione

in the Museum; evening dress optional. Acceptances of the invitation must be sent to Mr. A. Louis Schwabe, Market Street, York, by Thursday, the 13th December.

An Exhibition of objects of scientific interest has been arranged by the Committee of the York and District Field Naturalists' Society, and the Galleries of the Museum will be open.

**The Geological Photograph Albums** will be on exhibition.

### Cards of Membership

The production of these is absolutely necessary for the obtaining of N.E. railway tickets at reduced fares, and for admission to the various meetings.

Members who have lost or mislaid their cards may have others on application to the Secretary, enclosing a stamped addressed envelope.

Associates may obtain theirs through the Secretary of their own local Society.

### Election of Ten Additional Members of General Committee.

Voting papers are not sent out this year, but members may vote by post-card addressed to the Secretary, making their choice from the List of Members.

### THE MUSEUM.

The Museum of the Yorkshire Philosophical Society contains one of the best collections of Roman remains in the kingdom. These are for the most part housed in the hospitium, a separate building in the grounds, which was originally the old guest house of St. Mary's Abbey. In the main building there is an excellent geological collection containing not only a first-rate series of Yorkshire fossils, but also many type specimens in the general collection. There is also a good collection of British Birds, including many rarities obtained in the county, together with two specimens of the now extinct Great Auk. The Allis collection of Lepidoptera is very complete, and contains some species now extinct in this county. The Hey collection of British Coleoptera is also very good. In the Grabham collection of British Mammals is a very fine series of varieties of the Mole. There is an excellent osteological collection, and many most valuable remains of prehistoric man, consisting of flints, bronzes, iron, cinerary urns, etc., many of them having been dug out from the graves of these ancient people scattered throughout the county. A good series of Danish remains is also exhibited, many of these having been dug up in York. A small, but good collection of old China and glass is in the Society's possession, but owing to want of space at present only a small portion can be exhibited. There is also an interesting Ethnological series.

**Trains leave York** for Leeds, 6-15, 7-0, 9-8, 9-35, 11-10.  
 Hull, 5-0, 6-30, 7-0, 8-5, 9-50, 11-5.  
 Scarborough, 5-5, 5-10, 6-53, 8-10, 10-30.  
 Darlington, 6-35, 8-5, 9-13.  
 All p.m.

**NEW MEMBERS.**—A special effort is being made to get a good list of new members for the York Meeting. Towards this the Hon. Secretary would be glad to receive the form on the next page duly filled in. The Subscription is 10/6 per annum, and members receive the *Naturalist, Transactions*, etc. Free. The new volume of the *Naturalist* commences on January 1st.

This form, when filled up and signed, should be sent to the Secretary of the Union (Mr. T. SHEPPARD, F.G.S., The Museum, Hull).

The subscription of 10/6 entitles the members to receive the Union's monthly magazine, "The Naturalist," as well as the "Transactions."

Persons related to and resident in the family of a member are admitted as 5/- members, to enable them to attend excursions, but not receiving publications.

Qualification for Life Membership:—A Donation of 7 Guineas.

# Yorkshire Naturalists' Union.

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\_\_\_\_\_  
[Signature and Titles],

\_\_\_\_\_  
[Address],

wishes to become a Member of the Yorkshire Naturalists' Union, and will subscribe  
HALF-A-GUINEA (10|6) per annum, until the end of the year in which written  
resignation is given.

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[Signature  
of  
Proposer  
and  
Secunder].

Elected \_\_\_\_\_ 190 at \_\_\_\_\_

\_\_\_\_\_  
Chairman's Signature.

# Yorkshire Naturalists' Union.

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## President :

CHARLES CROSSLAND, F.L.S., Halifax.

## Ex-Presidents :

Rev. Wm. FOWLER, M.A., Liversedge.  
H. CLIFTON SORBY, LL.D., F.R.S., etc., Sheffield.  
JOHN GILBERT BAKER, F.R.S., F.L.S., Kew.  
Rt. Hon. LORD WALSHINGHAM, M.A., F.R.S., Thetford, Norfolk.  
Rev. W. H. DALLINGER, LL.D., F.R.S., etc., London.  
Sir RALPH PAYNE GALLWEY, Bart., M.B.O.U., Thirkleby Park.  
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A. H. PAWSON, J.P., F.L.S., F.G.S., London.  
G. W. LAMPLUGH, F.R.S., F.G.S., London.  
W. EAGLE CLARKE, F.R.S.E., Edinburgh.

## Divisional Secretary :

J. I. BURTON, Nunthorpe, R.S.O., Yorkshire.

## Hon. Secretary :

T. SHEPPARD, F.G.S., Municipal Museum, Hull.

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## THE 201ST MEETING

WILL BE HELD AT

# ROBIN HOOD'S BAY,

Whit Week-End, May 18th to 21st, 1907.

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**RAILWAY ARRANGEMENTS.**—Through return tickets at pleasure party rates will be issued at all stations on the G.C., G.N., H. & B., L. & Y., L. & N.W., Midland, and N.E. Railways, which have booking arrangements for Robin Hood's Bay, to Members and Associates of the Y.N.U., surrendering the Certificate noted below. Tickets taken on Friday, May 17th, will be available for return on Wednesday, May 22nd. When through bookings are not in operation Members may book to most convenient junction, and re-book to destination, the reduced fares being available for each stage of the journey.



N.B.—The Railway Booking Clerks will only grant these reduced fares to Members and Associates producing a Special Certificate signed by the Secretary of the Union. Members and Associates wishing for this Certificate must apply to Mr. Sheppard for it. At stations on the N.E. Rly tickets at the reduced fares will be issued on production of the signed card of membership.

—**BOOKS AND MAPS.**—The whole area is included in Sheets 44 of the One-Inch Ordnance Map, which may be obtained geologically coloured. "The Yorkshire Lias" by Tate and Blake, (1876); "The Jurassic Rocks of Britain," (Yorkshire) 2 Vols., by C. Fox Strangeways, (1892); "Glacier Lakes in the Cleveland Hills by P. F. Kendall, (Q.J.G.S., 1902), and Proc. Yorks. Geol. Soc., 1903; "The Blea Wyke Beds and the Dogger in North East Yorkshire," By R. H. Rastall, (Q.J.G.S., 1905); "Geological Rambles in East Yorkshire," by T. Sheppard, 1903; "Notes on the Glacial Geology of Robin Hood's Bay," by H. B. Muff and T. Sheppard, *Glacialist's Magazine*, 1896; "North Yorkshire" by J. G. Baker, (Trans. Y.N.U., 1906); "The Driftless Area in North-east Yorkshire, and its relation to the Geographical Distribution of certain Plants and Insects" by F. Elgee, (*Naturalist*, April, 1907); and "Geological Notes on Robin Hood's Bay District," by P. F. Kendall, in the *Naturalist* for the current month.

**THE DISTRICT** to be investigated includes the Coast and the high moorland ground in the neighbourhood of Robin Hood's Bay.

**THE HEADQUARTERS** will be at the Grosvenor Private Hotel, near Robin Hood's Bay Station.

**EVENING MEETINGS.**—The Geological Section will meet on Saturday evening, when a discussion will be introduced by Professor Kendall on "Persistent Faulting." On Monday Evening, Mr. Frank Elgee will read a paper on "Glacial Survivors." It is also hoped that papers or discussions on subjects connected with the other sections will be provided.

**ROUTES.**—(Saturday, Monday and Tuesday.) These will be arranged to suit the weather, tide, and other conditions. Professor Kendall will lead the geologists over some of the ground which has become famous as the result of his investigations in glacial phenomena. J. W. Barry, Esq., has offered to provide some competent local man to conduct any of the parties to the likeliest spots over his estate where their particular investigations may be pursued.

**PERMISSION** to visit their properties has been kindly granted by J. W. Barry, Esq., of Fyling Hall, Sir C. W. Strickland, and W. Farside, Esq.

**GEOLOGY.**—The Geological Section will be officially represented by its President, Mr. Cosmo Johns, F.G.S., and the Glacial Sub-section by Mr. E. Hawkesworth.

Professor P. F. Kendall, M.Sc., F.G.S., writes:—The members of the Geological Section will have an opportunity of studying a series of rocks unsurpassed in Britain for the completeness of their development and the excellence of the exposures, both on the coast and inland. The physical features are of equal interest to the stratigraphy, and the palæontology to both. But the geological fare is even more generous still, and students of geological tectonics and of glacial geology will find *entrees* as subtly compounded as the most fastidious palate could demand. The *piece de resistance* is, of course, the Jurassic series, and with Spring Tides (the moon is new on Whit Sunday) the magnificent exposures on the scars and in the cliffs will be easy of access.

The whole Liassic succession can be made out in the Bay with the sole exception of the lowest Zone, that of *Ammonites (Psiloceras) planorbis*, and of that evidence is occasionally obtainable in blocks thrown up from submerged reefs. At Blea Wyke can be seen the only certain occurrence in Yorkshire of the Zone of *Lytoceras jurense* and of the overlying Blea Wyke Beds which form a complete passage from the Lias into the Inferior Oolite. These are succeeded by the most important development of the Dogger to be found in the country, and that is followed by the great Estarine Series with its occasional marine beds.

All these Jurassic beds are well furnished with the fossils characteristic of their age, and of the conditions under which they were deposited.

The Peak Fault seems to belong to a system of dislocation completely surrounding the folded, but not faulted, mass of the Cleveland Hills in much the same way that the Craven and related faults surround the unfaulted mass of Carboniferous rocks of the Yorkshire Dales. It belongs to the same series as the Speeton Fault and the dislocation that runs across the peninsula of Scarborough Castle and has long been a subject of speculation among geologists; within the last two or three years Mr. Rastall and Mr. Herries have both written on the subject. The feature to which most attention has been directed is the effect of the fault upon the contrasted development of the Upper Lias and Lower Oolites upon opposite sides of the fault.

The coast sections of the glacial deposits are, or at least were last autumn, in a very favourable condition for observation. One noteworthy feature then visible was a basement layer of coarse rubble consisting of local rocks, chiefly Jurassic Sandstone with a few fragments of Lias. In this deposit no foreign boulders have as yet been detected.

**BOTANY.**—The Botanical Section will be officially represented by its President, Dr. W. G. Smith.

Dr. Smith writes:—I suggest careful examination of the Undercliff Wood and coast south of Ravenscar, and a comparison of the vegetation on the boulder clay with that on the rocky cliffs near the Peak. Inland the woods are now in good condition with regard to flowering plants of the undergrowth.

Mr. Elgee writes that the glacial slacks contain a profuse growth of sweet gale.

**Fungi.**—The Yorkshire Mycological Committee will be officially represented by the President of the Union, Mr. C. Crossland, F.L.S.

Mr. Crossland writes:—“There are few records of fungi for the immediate neighbourhood of Robin Hood’s Bay. None are mentioned in the reports of the 1888 and 1889 excursions in that district. At the Whitby and Arncliffe fungus foray in 1894 a few hours’ visit was paid to the bay, when several uncommon species were collected, including *Tricholoma frumentacea*, the only Yorkshire record. At this time of the year, however, we cannot expect many of this class of plant, although a few spring species may be met with.”

**VERTEBRATE ZOOLOGY.**—The Vertebrate Section will be officially represented by Mr. Alfred White, F.L.S.

J. W. Barry, Esq., of Fyling Hall, in giving permission to visit his estate, says the polecat is still to be found there, and he offers to suggest routes and give some information on the changes in bird and animal life which have taken place since he was a boy.

**CONCHOLOGY.**—The Conchological Section will be represented by Rev. F. H. Woods (Monday), who writes :—“ A few common shells like the cowry are found in the drift material on the shore, and it should be fairly rich in minute shells, such as the *Tornatini* and *Rissoas*.”

**ENTOMOLOGY.**—The Entomological Section will be officially represented by its President, Mr. Wm. Hewett.

**Lepidoptera.**—Mr. G. T. Porritt, F.L.S., F.E.S., writes :—“ Robin Hood's Bay is interesting to the lepidopterist as being the only place in the county where *Plusia moneta* has yet been observed. This pretty species was first noticed in Britain so recently as 1890, when a single specimen was captured at Dover. Since then it has spread with unusual rapidity over the country, reaching Yorkshire in 1901, when a specimen was captured in the hotel garden at Robin Hood's Bay. Its larva should be feeding, young at the time of the excursion, on Monkshood (*Aconitum*), or Larkspur (*Delphinium*), and it would be specially noteworthy to ascertain that it has gained a firm footing in the locality. Other local larvæ which should be feeding at the time, are *Plusia interrogationis* on heather on the moors; and the beautiful *Toxocampa pastinum*, which in the daytime can be found just under soil at the base of the *Vicia* plants which grow in such luxuriance on some parts of the cliffs, and the leaves of which are observed to have been eaten.”

Mr. F. Elgee writes :—“ The Pearl Bordered Fritillaries are numerous in the glacial slacks of Juggar Howe, Evan Howe, and Bitter Howe.”

**Coleoptera.**—The Yorkshire Coleoptera Committee will be officially represented by its Chairman, Mr. M. L. Thompson, F.E.S.

Mr. M. L. Thompson writes :—“ Although very few beetles have been recorded from Robin Hood's Bay, the locality should be well worthy of investigation. On the coast especially *Aëpus marinus*, *Bembidium anglicanum*, *B. affine*, *B. bruxellense*, species of *Dyschirius* and *Bledius*, *Phytosus*, *Cafius*, and *Aleochara* (among seaweed), will probably be found, also the local *Nebria livida*, with species of *Amara* and *Harpalus* at the foot of the cliffs. Grassy slopes should not be neglected, as many good beetles have been met with in such places along the Yorkshire coast.”

*Hemiptera*, *Hymenoptera*, and *Diptera.*—Mr. F. Elgee writes that *Mutilla europæa* was taken by him on Brown Rigg in August, 1904, this being the second record of its occurrence, and he suggests that it is a possible glacial survival on the driftless area.

**ACCOMMODATION** will be provided at the Grosvenor and the Victoria Hotels, Robin Hood's Bay. Terms, 8/- per day (inclusive).

The Divisional Secretary has secured accommodation for a considerable number of members. and those who intend joining this excursion should communicate with him *not later than Saturday, May 11th*, after which members must make their own arrangements.

**PROGRAMME OF MEETINGS (Monday) :—**

|   |                                   |
|---|-----------------------------------|
| 5-30 p.m. prompt, Meat Tea, 1/6 each.       | } At the Grosvenor Private Hotel. |
| 6-15 p.m., Sectional Meetings.              |                                   |
| 6-30 p.m.—General Meeting.                  |                                   |
| Trains for Scarbro and Hull leave 7-13 p.m. |                                   |
| ,, Saltburn leave 8-21 p.m.                 |                                   |

In order that an early account of the Excursion may appear in the “Naturalist,” notes and reports should be forwarded before May 24th, to the Secretary of the Y.N.U., the Museum. Hull.

# Yorkshire Naturalists' Union.

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**President :**

CHARLES CROSSLAND, F.L.S., Halifax.

**Ex-Presidents :**

Rev. WM. FOWLER, M.A., Liversedge.  
H. CLIFTON SORBY, LL.D., F.R.S., etc., Sheffield.  
JOHN GILBERT BAKER, F.R.S., F.L.S., Kew.  
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Prof. PERCY F. KENDALL, M.Sc., F.G.S., Leeds.  
W. DENISON ROEBUCK, F.L.S., Leeds.  
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G. W. LAMPLUGH, F.R.S., F.G.S., London.  
W. EAGLE CLARKE, F.R.S.E., Edinburgh.

**Divisional Secretary :**

J. W. STATHER, F.G.S., Brookside, Newland Park, Hull.

**Hon. Secretary :**

T. SHEPPARD, F.G.S., Municipal Museum, Hull.

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## THE 202ND MEETING

WILL BE HELD AT

# SOUTH CAVE,

On SATURDAY, JUNE 22nd, 1907.

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**RAILWAY ARRANGEMENTS.**—Through return tickets at pleasure party rates will be issued at all stations on the G.C., G.N., H. & B., L. & Y., L. & N.W., Midland, and N.E. Railways, which have booking arrangements for South Cave, to Members and Associates of the Y.N.U., surrendering the Certificate noted below. Tickets taken on Friday, June 21st, will be available for return on Monday, June 24th. When through bookings are not in operation Members may book to most convenient junction, and re-book to destination, the reduced fares being available for each stage of the journey.

**N.B.**—The Railway Booking Clerks will only grant these reduced fares to Members and Associates producing a Special Certificate signed by the Secretary of the Union. Members and Associates wishing for this Certificate must apply to Mr. Sheppard for it. At stations on the N.E. Rly tickets at the reduced fares will be issued on production of the signed card of membership.



**BOOKS AND MAPS.**—The whole area is included in Sheet 72 (94 S.W.) of the One-Inch Ordnance Map, which may be obtained geologically coloured. The following works may be consulted :—(1), The Memoir of the Geological Survey; (2), Tate and Blake's Yorkshire Lias; (3), William Hill, F.G.S., The Lower Chalk of Lincolnshire and Yorkshire; (4), Alf. Harker, F.G.S., The Oolites of the Cave District ("Naturalist," May, 1885); (5), F. F. Walton, F.G.S., The Geology of the District between Market Weighton and the Humber; (6), Rev. E. M. Cole, F.G.S., The Geology of the Hull and Barnsley Railway; (7), Keeping and Middlemiss on New Sections at Cave (Geological Magazine, May, 1883); (8), T. Sheppard, F.G.S., Geology of the Neighbourhood of Brough ("Naturalist," May, 1901), and (9), Geological Rambles in East Yorkshire; (10), G.W. B. Macturk, Denudation in the South Cave District (Trans. Hull Geol. Soc.)

**HEADQUARTERS for Saturday.**—"Fox and Coney" Hotel, South Cave. Members desiring to remain the week-end are advised to find accommodation in Hull, particulars of which will be supplied on application to Mr. Stather.

**ROUTES.**—(I.) The Geological party, including arrivals from the West at 10-55, and from Hull at 11-27, under the leadership of J. W. Stather, F.G.S., and G. W. B. Macturk, will start from South Cave Station at 11-30, and examine the cuttings East of the station.

(II.) The general body of Naturalists, including arrivals by the same trains, under the leadership of C. Crossland, F.L.S., J. F. Robinson, and J. W. Wilson, Ph. D., will visit the grounds of Cave Castle, by the kind permission of Mrs. Barnard, and then proceed upon suitable routes.

(III.) The afternoon party, including arrivals from the West at 1-19, and from Hull at 1-54, will be conducted by Dr. F. F. Walton and Mr. W. H. Crofts.

**PERMISSION** to visit their properties has been kindly granted by Mrs. Barnard to go over every part of her property at South Cave, including the grounds and gardens; Colonel Broadley, M.P.; and the Hull and Barnsley Railway Company to visit the various cuttings near Cave.

**GEOLOGY.**—The Geological Section will be officially represented by its President, Mr. Cosmo Johns, F.G.S., and its Secretary, Mr. E. Hawkesworth.

Mr. J. W. Stather, F.G.S., writes :—South Cave is situated about three miles north of the Humber, just below the western escarpment of the Yorkshire Wolds, and is a convenient centre from which can be visited good sections in a number of different formations.

The Geologist who has only a few hours to spend in the district had better alight at South Cave station and examine the sections exposed near by, and in the series of railway cuttings to the eastward as far as Weedley. He will then, in the course of a short walk, see exposed in the cuttings, or pass over in the intervening valley, the following formations in ascending order :—

|                     |   |                            |                                 |
|---------------------|---|----------------------------|---------------------------------|
| <b>Oolites</b> .    | { | Millepore bed . . . .      | Good section and fossiliferous. |
|                     |   | Kellaways rock . . . .     | ditto                           |
|                     |   | Oxford Clay . . . .        | Obscure sections.               |
|                     |   | Kimeridge Clay . . . .     | ditto                           |
| <b>Cretaceous</b> { | { | Red Chalk . . . .          | Fossiliferous sections.         |
|                     |   | Lower (Grey) Chalk . . . . | Good sections.                  |
|                     |   | Middle (Flinty) Chalk      |                                 |

On the return journey, if time permits, the so called "Gryphite Gravels" exposed in several pits at the west end of South Cave, are well worth a visit.

Visitors wishing to get an insight into the general geological structure and physical features of the district should climb the Wold escarpment, from whence, on a clear day, a series of extensive and charming views can be obtained of the Yorkshire and Lincolnshire Wolds, the valley of the Humber, and the Plain of York.

**Problems.**—The *solid* geology of the Cave district is, in the main, of a simple character and easily understood. It may however be mentioned that the clays between the Kellaways Rock and the Red Chalk, mapped by the Geological Survey as Kimmeridge Clay and Oxford Clay respectively, are imperfectly known, and any new fact as to their nature and relationship would be welcome.

On the other hand, the extensive and varied *superficial* deposits which occur in the district are very imperfectly understood, and present a fine field for original work.

**BOTANY.**—The Botanical Section will be officially represented by Mr. C. Crossland, F.L.S., and Mr. J. F. Robinson.

**Flowering Plants.**—Since the last field meeting of the Y. N. U. at South Cave, August, 1894, the "Flora of the E. R. Yorkshire" (Brown and Sons, pub. 1902), has been published, and therein will be found as full an account of the plant possibilities of the district as is likely to be found in any other work. South Cave, etc., are included in District No. 4 of "The Flora" (vide Map), and consists of the western escarpments of the lower Chalk Wolds, as well as the "foot-hills," as they may be called, which are due to the out-crops of Oolitic and Liassic rocks, together with the gravels and blown sands to the westward, which probably over-top Triassic Sandstones. These rocks give the larger plant associations their respective characters. From the published work above named there should be seen :—

On the chalk :—*Reseda lutea*, *Helianthemum chamaecistus*, *Viola hirta*, *Polygala serpyllacea*, *Spiraea filipendula*, *Cnicus eriophorus*, *Picris hieracioides*, *Atropis Belladonna*, *Hyoscyamus niger*, *Hypopitys monotropa*, *Ophrys apifera*, *Milium effusum*, and *Asplenium ruta-muraria*.

On the Jurassic rocks and the sands and gravels, the following :—*Teesdalia nudicaulis*, *Silene anglica*, *Cerastium semidecandrum*, *C. glomeratum* and *C. arvense*, *Geranium pyrenaicum*, *Astragalus glycyphyllos*, *Ornithopus perpusillus*, *Saxifraga tridactylites* and *S. granulata*, *Bryonia dioica*, *Myosotis collina* and *M. versicolor*, *Marrubium vulgare* and *Ballota nigra* (both horehounds are very common sand-loving plants), *Scleranthus annuus*, *Orchis ustulata*, *O. morio* (in some beautiful colour forms), *Tamus communis*, *Schoenus nigricans*, *Carex dioica*, *C. verna*, *Aira præcox*, and *Botrychium lunaria* (the Moonwort Fern), which, if carefully looked for, should be found on every gravelly mound.

Most of the selection of plants above mentioned will be in flower, but if not are characteristic to be detected otherwise.

**Mosses and Hepatics.**—The Yorkshire Bryological Committee will be officially represented.

Mr. Ingham writes ;—*Neckera crispa* seems to be the only moss recorded from South Cave, but this moss is an indication of a good district, and further records would be welcomed to add to the 223 species and 61 varieties of mosses so far recorded for the East Riding.

No Hepatics are recorded.

**Fungi.**—The Yorksnire Mycological Committee will be officially represented by its Secretary, Mr. C. Crossland, who writes :—

After all the rain we have had there is a probability that a few Fungi will be found if carefully looked for. The 1894 Circular says : "The beech woods yield a considerable variety of Fungi, some of which may be found at any visit during the year."

**VERTEBRATE ZOOLOGY.**—The Vertebrate Section will be officially represented by its President, Mr. Riley Fortune.

**Mammalia.**—Stoat, Weasel, Rat, Water Vole, etc.

**Birds.**—The following birds breed in the district :—Kestrel, Sparrowhawk, Long-eared and Barn Owls, Spotted Flycatcher, Carrion Crow, Magpie, Bullfinch, Treepit, Whinchat, Blackcap, Garden Warbler, Willow Wren, etc.

**Fishes.**—Trout (Drewton Stream).

**CONCHOLOGY.**—The Conchological Section will be represented by its Secretary, Mr. W. D. Roebuck, F.L.S., and Mr. J. W. Taylor.

Some forty species of terrestrial mollusca have been recorded in the immediate vicinity of South Cave, and eight aquatic species, and of the former the following may be more particularly mentioned as occurring more or less prolific. *Hyalinia pura*, *H. fulva*, *H. nitida*, *Helix pygmaea*, *H. aculeata*, *Helix hortensis* var. *lilacina*, *E. itala*, *Pupa muscorum*, *Vertigo antivertigo*, *V. pygmaea*, *Clausilia laminata*, and *Cæcilioides acicula*.

**ENTOMOLOGY.**—The Entomological Section will be officially represented.

**Lepidoptera.**—Mr. J. W. Boulton writes:—The district to be visited is perhaps one of the most promising that could have been selected in the East Riding, as there are entomologists in Hull who can recollect many very rare insects being taken in Drewton Dale and neighbourhood. Of recent years, however, the district has not received much attention, and it is not at all improbable that in some of the undisturbed parts many interesting insects which have been lost sight of still exist, as in fact has been found to be the case in one or two instances from investigations during recent years. The following insects have been taken in the neighbourhood:—*Argynnis paphia*, *A. aglaia*, *A. euphrosyne*, *Colias edusa*, *Apatura iris*, *Satyrus semele*, *Hesperia linea*, *Procris geryon*, *Acherontia atropa*, *Charocampa elpenor*, *Chelonia plantaginis*, *Selenia lunaria*, *Eurymene dolobraria*, *Gometra papilionaria*, and about fifty other species of Lepidoptera.

**Coleoptera.**—The Yorkshire Coleoptera Committee will be represented by Mr. T. Stainforth, who writes:—

The district to be investigated is in its character a not unpromising one for the labours of the coleopterist. In the 157th Circular (May, 1901), the late C. W. Russell, of Hull, writes that he had taken in East Dale, about Little Weighton and South Cave, *Leistus fulvibarbis*, *L. rufescens*, East Dale, *Nebria brevicollis*, *Badister bipustulatus*, *Pterostichus strenuus* Panz., *Amara spinipes* Auct., *Calathus cisteloides*, *C. piceus*, *Bembidium lampros*, *B. quadrimaculatum*, *Lebia chlorocephala*, East Dale, *Stomis pumicatus*, *Cercyon unipunctatus*, *Necrophorus mortuorum*, *Necrodes littoralis*, *Silpha atrata*, *Choleva angustata*, *C. tristis*, *Adalia obliterata*, *Halysia 18-guttata*, *Chilocorus similis*, East Dale, *Nitidula bipustulata*, *Soronina grisea*, East Dale, *Lathridius lardarius*, *Dermestes murinus*, East Dale, *Attagenus pelli*, *Aphodius merdarius*, *A. luridus*, *Ptinus fur*, *Lema lichenis*, *Chrysomela varians*, East Dale, *Phædon tumidulus*, *Sermyla halensis*, Drewton Dale, *Phyllotreta nemorum*, *Scaphidema metallicum*, East Dale, *Rhinosimus ruficollis*, *R. plaurostris*, *Pissodes pini*, in the wooded part of East Dale, *Orchestes fagi*, *Scolytus destructor*, *Myelophilus piniperda*, and *Hylobius abietis*, both in the wooded part of East Dale.

On the excursion in the Brough district, for which the Circular (157) was issued, were taken, among other species, *Bembidium minimum*, *B. æneum*, *Laccobius sinuatus*, *Melanophthalma gibbosa*, *Sinodendron cylindricum*, *Melanotus rufipes*, and *Hedobia imperialis*. In the 111th Circular (Aug., 1894), are mentioned:—*Carabus catenulatus*, *C. monilis*, *Necrophorus ruspator*, and *Silpha thoracica*. From South Cave, *Staphylinus stercorarius*; and from Weedley Springs, *Chrysomela marginalis* (in 1906) have been recorded. On June 8th of this year, *Cychnus rostratus* and *Lacon murinus* were found at North Cave.

#### PROGRAMME OF MEETINGS:—

|                                      |  |
|--------------------------------------|--|
| 5.0 p.m. prompt, Meat Tea, 1/6 each. | } At the "Fox and Coney,"<br>South Cave. |
| 5.30 p.m., Sectional Meetings.       |  |
| 5.45 p.m.—General Meeting.           |  |

Trains for the West leave South Cave at 7.24.

Trains for Hull leave at 6.10 and 8.49.

Trains for Leeds leave Paragon Station, Hull, at 8.40.

In order that an early account of the excursion may appear in the "Naturalist," notes and reports should be forwarded before June 25th, to the Secretary of the Y.N.U., the Museum, Hull.

# Yorkshire Naturalists' Union.

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## President :

CHARLES CROSSLAND, F.L.S., Halifax.

## Ex-Presidents :

Rev. Wm. FOWLER, M.A., Liversedge.  
H. CLIFTON SORBY, LL.D., F.R.S., etc., Sheffield.  
JOHN GILBERT BAKER, F.R.S., F.L.S., Kew.  
Rt. Hon. LORD WALSHINGHAM, M.A., F.R.S., Thetford, Norfolk.  
Rev. W. H. DALLINGER, LL.D., F.R.S., etc., London.  
Sir RALPH PAYNE GALLWEY, Bart., M.B.O.U., Thirkleby Park.  
WILFRID H. HUDLESTON, M.A., F.R.S., London.  
HENRY EELES DRESSER, F.L.S., F.Z.S., London.  
R. H. TIDDEMAN, M.A., F.G.S., Oxford.  
ROBERT BRAITHWAITE, M.D., F.L.S., London.  
Prof. W. BOYD DAWKINS, M.A., F.R.S., Manchester.  
WILLIAM WEST, F.L.S., Bradford.  
GEORGE T. PORRITT, F.L.S., F.E.S., Huddersfield.  
Prof. PERCY F. KENDALL, M.Sc., F.G.S., Leeds.  
W. DENISON ROEBUCK, F.L.S., Leeds.  
A. H. PAWSON, J.P., F.L.S., F.G.S., London.  
G. W. LAMPLUGH, F.R.S., F.G.S., London.  
W. EAGLE CLARKE, F.R.S.E., Edinburgh.

## Divisional Secretaries :

H. H. CORBETT, 9 Priory Place, Doncaster.  
A. WHITAKER, Saville House, Worsborough Bridge, Barnsley.

## Hon. Secretary :

T. SHEPPARD, F.G.S., Municipal Museum, Hull.

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## THE 203RD MEETING

WILL BE HELD AT

# THORNE,

FOR THORNE WASTE,

On THURSDAY, JULY 11th, 1907.



**RAILWAY ARRANGEMENTS.**—Through return tickets at pleasure party rates will be issued at all stations on the G.C., G.N., H. & B., L. & Y., L. & N.W., Midland, and N.E. Railways, which have booking arrangements for Thorne or Crowle, to Members and Associates of the Y.N.U., surrendering the Certificate noted below. Tickets taken on Wednesday, July 10th, will be available for return on Friday, July 12th. When through bookings are not in operation Members may book to most convenient junction, and re-book to destination, the reduced fares being available for each stage of the journey.

N.B.—The Railway Booking Clerks will only grant these reduced fares to Members and Associates producing a Special Certificate signed by the Secretary of the Union. Members and Associates wishing for this Certificate must apply to Mr. Sheppard for it. At stations on the N.E. Rly tickets at the reduced fares will be issued on production of the signed card of membership.

**BOOKS AND MAPS.**—The whole of the district to be investigated is included in Sheet 79 of the One-Inch Ordnance Map. The Geological Survey Maps are 86 and 87 N.E. and S.E. (old series). The following works may be consulted:—Davis and Lees' "West Yorkshire," and F. A. Lees' "Flora of the West Riding;" "The Natural History of Goole Moor," T. Bunker (Trans. Hull Sci. and F. N. Club, 1898).

**THE DISTRICT** to be investigated is included in Sheet 79 of the One-Inch Ordnance Survey Map.

**HEADQUARTERS.**—Red Lion Hotel, Thorne.

**ROUTES.**—The geological party start from Crowle (G.C.) station at 10-57 (leaving Doncaster, 10-35; Leeds Central, 9-0; York, 8-35; Barnsley, 9-52; Sheffield, 9-45; Hull, *via* Doncaster, 8-22 or 9-45, *via* New Holland, 8-25); visit Gravel<sup>s</sup> and Keuper Marls at Crowle; walk by Tetley and Godknow Bridge to Thorne Waste, and thence to Thorne.

The general body of Naturalists arriving at Thorne N.E. from the West at 10-57 a.m., and from Hull at 11-7 a.m., will proceed, under the leadership of Messrs. H. H. Corbett and M. H. Stiles, by the canal side and fields to Thorne Moor, eventually meeting at Medge Hall Station at 4-50 p.m., for the return to Thorne.

Another party, arriving at Medge Hall from Doncaster and the West, at 12-41 p.m., will investigate the eastern side of the Moor, and return to Thorne from Medge Hall at 4-50 p.m.

**PERMISSION** to visit their properties has been kindly granted by J. Elmhirst, Esq., J.P., and the British Moss Litter Co., on the understanding that there be no smoking nor using lights of any kind on the Moor.

**GEOLOGY.**—The Geological Section will be officially represented by its President, Mr. Cosmo Johns, F.G.S.

Mr. H. Culpin writes:—The *solid* geology of the district is Trias, of which a fine fresh section in (a) the Keuper Marls is now exposed at the Crowle Brick and Tile Works. A small fault is shown very effectively by the contrast between the red and green layers, and there are some contortions which should also prove attractive to the photographers. (b) The Bunter sands may be seen in a pit at Thorne.

The *superficial* deposits are (a) blown sand, (b) peat, and (c) gravels. (a) The blown sand may be seen at numerous places in the district. (b) The peat will naturally receive a good deal of attention during the present visit. It is 20 feet

thick on Thorne Waste, and some excellent sections are exposed. (c) There are good exposures on the south side of Crowle Hill of gravels consisting of Keuper marlstone interstratified with sand; and at Thorne of gravels and sand, consisting chiefly of pebbles of magnesian limestone, with some rounded chunks of Bunter, and a sprinkling of strangers. These exposures, and some gravel ridges in the intervening area, form an interesting link between the gravels of magnesian limestone visited last year at Askern, and the "Gryphœa" and other gravels recently inspected near South Cave.

**BOTANY.**—The Botanical Section will be officially represented by Messrs. H. H. Corbett, W. G. Smith, Ph. D., and T. W. Woodhead, Ph. D.

Mr. Corbett writes :—The Plant associations of the Moor are very characteristic and interesting. The borders of the Moor are fringed with a thick growth of Birch, Alder, Willow, Gale, and Bramble, the undergrowth being chiefly Bracken. Along with these are planted numerous Pines and Larches. Upon the Moor itself are several distinct associations. (1) Wherever the peat has been recently disturbed and raised, wind-borne colonists predominate, the most conspicuous being *Epilobium angustifolium*. (2) On dry parts not recently disturbed is a luxuriant growth of Bracken. In some places the ferns are eight feet high or more. (3) The natural surface of the bog is chiefly occupied by *Calluna*, *Myrica* and *Eriophorum vaginatum*, with much *Erica tetralix* and *Andromeda* in places. (4) The lower and wetter portions support *Carex spp.*, *Eriophorum angustifolium*, *Drosera*, etc.

Among the more interesting species to be found in flowers at the time of the excursion are *Thalictrum flavum*, *Ranunculus godronii*, *R. circinatus*, *R. arvensis*, *Erysimum cheiranthoides*, *Barbarea stricta*, *Lepidium draba*, *Coronopus Ruelii*, *Drosera rotundifolia*, *D. intermedia*, *Stellaria aquatica*, *S. glauca*, *Buda rubra*, *Comarum palustre*, *Rubus fissus*, *R. plicatus*, *Rosa obtusifolia*, *Peucedanum palustre*, *Dipsacus sylvestris*, *Bidens tripartita*, *Hieracium umbellatum*, *Schollera Oxycoccus*, *Andromeda Polifolia*, *Rhinanthus major*, *Lysimachia Nummularia*, *L. vulgaris*, *Typha angustifolia*, *Potamogeton Friesii*, *P. pectinatus*, *Butomus umbellatus*, *Hydrocharis morsus-ranae*, *Carex curta*, *C. pseudo-cyperus*, etc., etc.

**Fungi.**—The Mycological Committee will be represented by its Secretary, Mr. C. Crossland, F.L.S., who writes :—There are sure to be many Fungi on the Waste, after the more than copious rains that we have had.

**VERTEBRATE ZOOLOGY.**—The Vertebrate Section will be officially represented.

Mr. Corbett writes :—

**Mammalia.**—The usual woodland and marshland species are to be found, and both Otter and Badger still haunt the neighbourhood.

**Aves.**—The Moor itself, and its edges, thick with birch, willow, gale, etc., afford abundant shelter and breeding sites for birds; and did the keepers let them alone, far more would avail themselves of the chance of making themselves at home. Among the more interesting species seen by the writer during the breeding season are :—Stonechat, Wheatear, Nightingale, Wood-warbler, Reed-warbler, Grass-hopper-warbler, Lesser Redpole, Corn-bunting, Nightjar, Great-spotted Woodpecker, Green Woodpecker, Kingfisher, Long-eared Owl, Tawny Owl, Heron, Mallard, Turtledove, Blackcock, Water rail, Redshank, Snipe, Common Sandpiper, Curlew, Black-headed Gull, Little Grebe and Great Crested Grebe.

**Reptilia.**—Adders are common on the Moor, and Grass Snakes in the damp fields near by. Lizards are occasionally seen on sandy banks.

**Amphibia and Pisces.**—There is nothing of especial interest in these orders.

**CONCHOLOGY.**—The Conchological Section will be represented by its President, Mr. J. E. Crowther.

**Mollusca.**—The district being chiefly on peat, sand, and clay, is not good for terrestrial mollusca, but the canal and numerous ditches are rich in aquatic forms. Among the more local of these are *Physa hypnorum*, *Bythinia leachi*, *Vivipara contecta*, and *Sphaerium ovale*.

Mr. J. E. Crowther writes :—When working in the district last week in April and first week in May, we noted the following Mollusca in the ditches near Thorne :—*Limnaea pereger*, *L. palustris*, *L. truncatula*, *L. stagnalis*, *L. glabra*, *Planorbis corneus*, *P. albus*, *P. carinatus*, *P. vortex*, *P. contortus*, *Physa fontinalis*, *P. hypnorum*, *Bythinia tentaculata*, *B. leachi*.

**ENTOMOLOGY.**—The Entomological Section will be officially represented.

Mr. Corbett writes :—

**Lepidoptera.**—It would be useless to attempt a list of species occurring in so rich a locality; but a few of the more local species likely to be found are appended :—*Chortobius typhon*, *Hesperia linea*, *Procris staticis*, *Zygena filipendulae*, *Bombyx callunae*, *Saturnia canipini*, *Hyria auroraria*, *Fidonia atomaria* (very variable), *Platypteryx falcula*, and very many “good things” among the micros.

The Yorkshire Coleoptera Committee will be represented by Messrs. E. G. Bayford and H. H. Corbett.

**Coleoptera.**—The district is particularly rich in beetles, and many good species are likely to be found. Among the rarer kinds captured in the locality by Mr. Corbett are :—*Notiophilus palustris*, Duft., *Leistus spinibarbis*, F., *Acupalpus dorsalis*, F., *A. exiguus* v. *luridus*, Dj., *Bradycellus similis*, Dj., *B. placidus*, Gyll., *Amara aulica*, Pz., *Anchomenus oblongus*, F., *Hydroporus granularis*, L., *H. dorsalis*, F., *H. memnonius*, Nic., *Ilybius obscurus*, Marsh, *Rhantus grapti*, Gyll., *Acilius fasciatus* De.G., *Platystethus cornutus*, Gr., *Olibrus aeneus*, F., *Anatis ocellata*, L., *Coccinella hieroglyphica*, L., *Endomychus coccineus*, L., *Nitidula rufipes*, L., *Telmatophilus caricis*, Ol., *Antherophagus nigricornis*, F., *Mycetophagus multipunctatus*, Hill, *Helocerus claviger*, Er., *Throscus dermestoides*, L., *Elater balteatus*, L., *Scirtes hemisphaericus*, L., *Rhagium bifasciatum*, F., *Saperda populnea*, L., *Melasoma populi*, L., *Hydrothassa aucta*, F., *Hippuriphila modeeri*, L., *Tetratoma fungorum*, F., *Apion hydrolapathi* Kjrl., *Orchestes rusci*, Hbst., *Grypidius equisiti*, F., *Nanophyes lythri*, F., *Poophagus sisymbrii*, F.

The Micro-Botany and Zoology Committee will be represented by its President, Mr. M. H. Stiles.

#### PROGRAMME OF MEETINGS :—

|   |                                |
|---|--------------------------------|
| 5-30 p.m. prompt, Meat Tea, 1/6 each. } | At the Red Lion Hotel, Thorne. |
| 6-0 p.m., Sectional Meetings. }         |                                |
| 6-20 p.m., General Meeting. }           |                                |

Trains leave Thorne N. E. for Hull at 7-27 p.m. and 9-58 p.m.

Trains leave Thorne N. E. for Doncaster at 8-28 p.m.

Trains leave Thorne G. C. for Doncaster at 7-37 p.m.

In order that an early account of the excursion may appear in the “Naturalist,” notes and reports should be forwarded before July 20th, to the Secretary of the V N. U., the Museum, Hull.

# Yorkshire Naturalists' Union.

## President :

CHARLES CROSSLAND, F.L.S., Halifax.

## Ex-Presidents :

Rev. Wm. FOWLER, M.A., Liversedge.  
H. CLIFTON SORBY, LL.D., F.R.S., etc., Sheffield.  
JOHN GILBERT BAKER, F.R.S., F.L.S., Kew.  
Rt. Hon. LORD WALSHINGHAM, M.A., F.R.S., Thetford, Norfolk.  
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WILFRID H. HUDLESTON, M.A., F.R.S., London.  
HENRY EELES DRESSER, F.L.S., F.Z.S., London.  
R. H. TIDDEMAN, M.A., F.G.S., Oxford.  
ROBERT BRAITHWAITE, M.D., F.L.S., London.  
Prof. W. BOYD DAWKINS, M.A., F.R.S., Manchester.  
WILLIAM WEST, F.L.S., Bradford.  
GEORGE T. PORRITT, F.L.S., F.E.S., Huddersfield.  
Prof. PERCY F. KENDALL, M.Sc., F.G.S., Leeds.  
W. DENISON ROEBUCK, F.L.S., Leeds.  
A. H. PAWSON, J.P., F.L.S., F.G.S., London.  
G. W. LAMPLUGH, F.R.S., F.G.S., London.  
W. EAGLE CLARKE, F.R.S.E., Edinburgh.

## Divisional Secretary :

RILEY FORTUNE, F.Z.S., Lindisfarne, Dragon Road, Harrogate.

## Hon. Secretary :

T. SHEPPARD, F.G.S., Municipal Museum, Hull.

## THE 204TH MEETING

WILL BE HELD AT

# ARNCLIFFE,

FOR THE INVESTIGATION OF

## LITTONDALE.

ON

Bank Holiday Week End, August 3rd to 5th, 1907.

**RAILWAY ARRANGEMENTS.**—Through return tickets at pleasure party rates will be issued at all stations on the G.C., G.N., H. & B., L. & Y., L. & N.W., Midland, and N.E. Railways, which have booking arrangements for GRASSINGTON, to Members and Associates of the Y.N.U., surrendering the Certificate noted below. Tickets taken on Friday, August 2nd, will be available for return on Tuesday, August 6th. Where through bookings are not in operation Members may book to most convenient junction, and re-book to destination, the reduced fares being available for each stage of the journey.

**NOTE.**—Through return tickets must be taken to Grassington. Motor and other busses meet trains at Grassington to convey passengers to their destination.



N.B.—The Railway Booking Clerks will only grant these reduced fares to Members and Associates producing a Special Certificate signed by the Secretary of the Union. Members and Associates wishing for this Certificate must apply to Mr. Sheppard for it. At stations on the N.E. Rly tickets at the reduced fares will be issued on production of the signed card of membership.

**ACCOMMODATION** is strictly limited. In August many of the Inns have their regular customers. It is necessary, therefore, that members should write at once to secure beds, which, in almost every case, are double beds.

All available beds have been booked by the Union at the following places, and members must write direct.

The Falcon Hotel, Arncliffe, Skipton (Mr. Miller). Terms, 6/- per day.  
The Racehorses, Kettlewell, Skipton (Miss Leyland). Terms, 7/6 per day.  
The Queen's Arms, Litton, Skipton (Mr. J. Wiseman). Terms, 6/- per day.  
Mrs. Lund, Temperance Boarding House, Arncliffe, Skipton.  
The Blue Bell, Kettlewell, Skipton (Mr. Pattison). Terms, 6/- per day.  
There are also apartments to be had in Arncliffe, Kettlewell, Hawkswick, etc.

**BOOKS AND MAPS.**—The whole area is included in a Sheet of the One-Inch Ordnance Map, which may be obtained geologically coloured. Baker's "North Yorkshire" may be consulted. For an account of the geology of the district, see the "Naturalist" for August 1st.

**THE DISTRICT.**—Upper Wharfedale is the union of two dales, Langstrothdale and Littondale, which unite about half a mile above Kilnsey Scar. These two dales are approximately equal in extent as regards drainage area and the length of their streams. Langstrothdale has been more than once visited by the Union, and is not within the scope of the present excursion, which is intended exclusively for the investigation of **Littondale**, the basin drained by the little river Skirfare, which joins the Wharfe between Kilnsey and Kettlewell. Zoologists and botanists are therefore desired to confine their attention to this river-basin, no part of which is lower than 636 feet in altitude, the height marked close to Skipton Bridge, which carries the high road across the mouth of the valley, and the present opportunity is a good one for working Littondale and its little tributary gills, watered by the Cush Beck, Foxup Beck, Halton Beck, Hesleden Beck, and Cowside Beck. The lofty summit of Penyghent (2231 feet), Fountains Fell (2191 feet), Darnbrook Fell (2048 feet), Cush Knott (1959 feet), and the Horse's Head (2001 feet), are also included within the area to be worked, the whole district forming an attractive area of mountain country, of which practically nothing is known zoologically and not very much botanically beyond the immediate vicinity of Arncliffe itself.

**HEADQUARTERS.**—The Falcon Hotel, Arncliffe.

**EVENING MEETING.**—Saturday evening, at 8-0 p.m., at the Falcon Hotel, Arncliffe, there will be a meeting, at which the President will be in the chair, and the Rev. W. A. Shuffrey, M.A., will read a paper upon "The Botany of Littondale," and Mr. W. Denison Roebuck, F.L.S., will give some notes on the list of *Hemiptera* known to inhabit Yorkshire, and a note on some recent additions to the list of *Hymenoptera*. It is hoped there will be a full attendance of the new Committee for Yorkshire *Hymenoptera*, *Diptera*, and *Hemiptera*.

**ROUTES.**—The Rev. W. A. Shuffrey will conduct a party to the place where *Dryas* or *Rubus Chamæmoris* grows.

**PERMISSION** to visit his property has been kindly granted by Mr. Walter Morrison, Malham, Skipton.

**GEOLOGY.**—The Geological Section will be officially represented by Mr. Cosmo Johns, F.G.S.

**BOTANY.**—The Botanical Section will be officially represented by its President, Mr. W. G. Smith, Ph.D., and Mr. T. W. Woodhead, Ph.D.

**Flowering Plants.**—An account of the botany of Littondale was published in the "Yorkshire Naturalist" for February, 1891, by the Rev. W. A. Shuffrey, Vicar of Arncliffe. Since then he has found a few additional specimens. This Dale has a very rich flora considering that there is no arable land in the dale. The *Dryas octopetala* grows here (the only station in the West Riding). The *Cypripedium Calceolus* once grew in the dale, but is probably now extinct. Specimens have recently been found a few miles away, and it may probably turn up again in the valley. Of Saxifrages we have *S. oppositifolia*, *S. aizoides*, *S. granulata*, *S. umbrosa*, and *S. hypnoides* in abundance. Geraniums are plentiful, the *G. phæum* grows wild in one spot. *Serratula tinctoria*, *Tragopogon pratensis*, *Polemonium caeruleum*, *Plantago maritima*, *Pinguicula vulgaris*, *Polygonum viviparum*, *Daphne Mezereum*, *Colchicum autumnale*, *Ophrys muscifera*, and *Primula farinosa* can be found in the valley or in the woods on the slopes of the hills. On the moors and hills botanists may look for *Rubus Chamæmorus*, *Thlaspi alpestre*, *Melampyrum pratense*, *Triglochin palustre*, *Botrychium Lunaria*, *Polystichum Lonchitis*, and *Narthecium ossifragum*. In August many of these flowers will have ceased to bloom.

**Mosses and Lichens** have not been thoroughly explored. Mr. Shuffrey has found *Hypnum tamariscinum* plentiful, *Hypnum triquetrum*, *Bartramia fontana*, *Hypnum filiforme*, *Bryum nutans*, *Neckera crispa*, *Madothica platyphylla*, *Hypnum splendens*, *Dicranum scoparium*, etc., etc. *Marchantia polymorpha*.

**Fungi.**—The Yorkshire Mycological Committee will be officially represented by its Secretary, Mr. Chas. Crossland, F.L.S.

Mr. Crossland writes:—Very few Fungi are recorded for the immediate neighbourhoods of Kettlewell and Arncliffe. There will be plenty, no doubt, if sought after, and the week-end will afford facilities for doing this.

**BOTANICAL SURVEY.**—The greater part of the district is included on the Harrogate and Skipton Vegetation Map, by Messrs. Smith & Rankin (Geographical Journal, August, 1903); this may be purchased. Copies of the paper (without map) may be obtained free of charge from Dr. W. G. Smith (University of Leeds), or from Mr. Sheppard, at Arncliffe; this contains lists of plants and other observations on the vegetation of the Limestone and Grits, and will be useful to those interested in plant distribution.

**VERTEBRATE ZOOLOGY.**—The Vertebrate Section will be officially represented by Mr. H. B. Booth, who writes:—

**Mammals.**—The Stoat and Weasel are almost too numerous. Rabbits are common, but hares are becoming scarce. No doubt many species of "small deer" occur, but I have only identified the Common Shrew, the Long-tailed Field Mouse, and the Mole in this dale. The mounds of the latter may be seen almost on the summits of the surrounding moors during the summer months. Bats occur in small numbers, and their identification would be of interest. The Rev. W. A. Shuffrey states that on rare occasions Otters have been seen on the stream near Arncliffe. A few Goats live on Kilnsey Crag (at the foot of the valley) almost in a feral state.

**Birds.**—The usual birds of the higher dales of North-west Yorkshire will be found, and fairly plentifully too, with the exception perhaps of a few strictly woodland species. The characteristic birds of this almost isolated dale are the Curlew, Carrion Crow, Lapwing, Snipe, Dipper, Grey Wagtail, Yellow Wagtail, Wheatear, Redstart, Blackbird, Chaffinch, Wren, and Sandpiper. The Kestrel and the Sparrow Hawk breed there in comparative abundance, and a few pairs of Merlins nest on the surrounding Moors. On Penyghent the Peregrine Falcon attempts an eyrie almost every year, and is protected by the landowner and the law; so perhaps, in the future, our Wild Birds and Eggs Protection Acts Committee may be instrumental in bringing any offenders to justice. The Raven is not uncommon on

the moors during the lambing season, and a pair occasionally nest only just out of the dale. The Golden Plovers breed on Fountain's Fell and near Birk's Fell. Stockdoves are not uncommon, and nest on Kilnsey Crag and on Arncliffe Clouder. A look-out should be kept for the Twite and the Tree Sparrow—both very local birds in this district. The House Sparrow is actually not by any means common, and the natives are to be congratulated upon the fact. Both the Common Buzzard and the Dotterel are recorded in Littondale. From what information that I have been able to gather on the spot, I rather fear they were cases of mistaken identity; but if either of these species can be substantiated by the visit of the Yorkshire Naturalist Union, it will be a valuable record.

**Fishes.**—The Trout is very plentiful where there is *permanent* water, and no doubt several other species will be found to occur.

**CONCHOLOGY.**—The Conchological Section will be officially represented by its Secretary, Mr. W. Denison Roebuck, F.L.S.

**Land and Fresh Water Mollusca.**—There are but a few casual records of land-shells, none whatever of slugs or fresh water shells. It would be interesting to confirm the record in Dyson's Manchester list of 1850, of *Helix ericetorum* being very common on the banks of Arncliffe Beck, on the sandy soils, if indeed this be the Arncliffe meant. On the 19th September, 1872, Mr. W. Denison Roebuck noted *Helix rupestris*, *H. rotundata*, *H. hispida*, and var. *hispidosa*, all in plenty. *Succinea putris* and *Zua lubrica* in Littondale and near Arncliffe. Mr. W. West, F.L.S., found *Vitrina pellucida* there 27th March, 1880, and in 1881, Mr. George Roberts found *Helix lapicida* and *Clausilia cravenensis* there. The district does not appear to have been since visited by Conchologists, and consequently there is ample room for discovery. The altitudinal range of Mollusca (and indeed of all forms of animal life) up the little gills and the mountain slopes and summits should be carefully noted, and search might usefully be made for *Pupa secale* on the limestone scars, the species being known to occur on those near Kettlewell.

**ENTOMOLOGY.**—The Entomological Section will be officially represented.

Mr. W. D. Roebuck, F.L.S., writes :—

**Lepidoptera.**—Nothing is known of the lepidoptera, the common *Vanessa urtica* being the only species actually known. But search should be made for various montane species, and it is even within the bounds of possibility that *Erebia blandina* may turn up.

**Coleoptera, Hymenoptera, Diptera, etc.**—There are no published records, so the field is open for research, and montane species should be especially searched for.

Mr. E. G. Bayford writes :—There are no records of Coleoptera for the immediate district. Many good species have, however, been taken in localities not many miles distant, and similar in altitude. Of these mention may be made of *Ancistronycha abdominalis*, *Corymbites pectinicornis*, *C. cupreus*, and var. *aruginosus*.

Mr. H. Osteide writes :—I have taken *Carabus violaceus*, *Cychnus rostratus*, *Serica brunnea* near Kettlewell, but have no records from Arncliffe. *Carabus glabratus* might be looked for.

#### PROGRAMME OF MEETINGS, Monday :—

|                                       |                                   |
|---------------------------------------|-----------------------------------|
| 4-30 p.m. prompt, Meat Tea, 1/6 each. | } At the Falcon Hotel, Arncliffe. |
| 5-0 p.m., Sectional Meetings.         |                                   |
| 5-30 p.m., General Meeting.           |                                   |

Trains leave Grassington, 6-45 p.m., 8-0 p.m.

In order that an early account of the excursion may appear in the "Naturalist," notes and reports should be forwarded before August 16th, to the Secretary of the Y.N.U., the Museum, Hull.

# Yorkshire Naturalists' Union.

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## President :

CHARLES CROSSLAND, F.L.S., Halifax.

## Ex-Presidents :

Rev. Wm. FOWLER, M.A., Liversedge.  
H. CLIFTON SORBY, LL.D., F.R.S., etc., Sheffield.  
JOHN GILBERT BAKER, F.R.S., F.L.S., Kew.  
Rt. Hon. LORD WALSINGHAM, M.A., F.R.S., Thetford, Norfolk.  
Rev. W. H. DALLINGER, LL.D., F.R.S., etc., London.  
Sir RALPH PAYNE GALLWEY, Bart., M.B.O.U., Thirkleby Park.  
WILFRID H. HUDLESTON, M.A., F.R.S., London.  
HENRY EELES DRESSER, F.L.S., F.Z.S., London.  
R. H. TIDDEMAN, M.A., F.G.S., Oxford.  
ROBERT BRAITHWAITE, M.D., F.L.S., London.  
Prof. W. BOYD DAWKINS, M.A., F.R.S., Manchester.  
WILLIAM WEST, F.L.S., Bradford.  
GEORGE T. PORRITT, F.L.S., F.E.S., Huddersfield.  
[Prof. PERCY F. KENDALL, M.Sc., F.G.S., Leeds.  
W. DENISON ROEBUCK, F.L.S., Leeds.  
A. H. PAWSON, J.P., F.L.S., F.G.S., London.  
G. W. LAMPLUGH, F.R.S., F.G.S., London.  
W. EAGLE CLARKE, F.R.S.E., Edinburgh.

## Divisional Secretary :

W. ROBINSON, Greenbank, Sedbergh.

## Hon. Secretary :

T. SHEPPARD, F.G.S., Municipal Museum, Hull.

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## THE 205TH MEETING

WILL BE HELD AT

# HORTON = IN = RIBBLESDALE,

ON

## Saturday, Sept. 7th, 1907.

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**RAILWAY ARRANGEMENTS.**—Through return tickets at pleasure party rates will be issued at all stations on the G.C., G.N., H. & B., L. & Y., L. & N.W., Midland and N.E. Railways, which have booking arrangements for HORTON to Members and Associates of the Y.N.U., surrendering the Certificate noted below. Tickets taken on Friday, September 6th, will be available for return on Monday, September 9th. Where through bookings are not in operation Members may book to most convenient junction, and re-book to destination, the reduced fares being available for each stage of the journey.



**N.B.**—The Railway Booking Clerks will only grant these reduced fares to Members and Associates producing a Special Certificate signed by the Secretary of the Union. Members and Associates wishing for this Certificate must apply to Mr. Sheppard for it. At Stations on the N.E. Rly. tickets at the reduced fares will be issued on production of the signed card of membership.

**BOOKS AND MAPS.**—The whole area is included in Sheets 50 and 60 (92 N.W. and 97 S.W.) of the One-Inch Ordnance Map, which may be obtained geologically coloured.

There is an account of the last excursion of the Union to Horton in the "Naturalist" for 1892, pp. 177—185.

References may be made to Prof. Hughes' papers, diagrams, and sections at Crag Hill and Dry Hill in Vols. XIV., p. 339, and XVI., p. 67, of the "Proceedings of the Yorkshire Geological Society"; to the "Ingleborough Geological Memoirs," pp. 21 and 22; to Davis and Lee's "West Yorkshire"; and to Phillip's classical work. There is also a good deal of information on the District in Speight's "North West Yorkshire Highlands," and in Bank's "Walks in Yorkshire" (N.W. section).

**THE DISTRICT**—Mr. Robinson writes:—Horton, at a height approaching 800 feet above sea level, still slumbers in hoary antiquity on the partly buried floor of the oldest rocks of the county. The approach from the south is notable. The traveller during the last seven miles of his journey will cross the two Craven faults (at Settle and Great Stainforth) and traverse in succession and on the line level millstone grits, great scar limestone, and rocks of Silurian age—phenomena which are due to the mighty forces of terrestrial stress in times more antiquated than the village.

On arrival at the Railway Station pause should be made to contemplate the unusually wild scene around. Glaciers and ice sheets, and the denudation which followed their retreat, have shaped the surrounding surface. Suites of Drumlins and other evidences of ice action may be discerned far away to the north, as well as on and between the bold escarpments of towering Penyghent, and the other adjacent high mountain masses. Possibly the historian Whitaker was dreaming of the effects of glacial periods when he described "the forefathers of the Hamiet as cultivating their little grain in a damp and sunned valley between the shades of Ingleborough and Penigent."

**HEADQUARTERS.**—The Golden Lion Hotel, Horton-in-Ribblesdale.

**ACCOMMODATION.**—Members wishing to stay over Sunday will find accommodation at Headquarters, the Golden Lion, Horton-in-Ribblesdale, at 6/- per day. They will please write to Mrs. Cooke, Golden Lion, direct. Private accommodation may be had at Mrs. P. Davies, Station House; Mrs. Swinbank, Bee Croft Hall. Other addresses may be obtained from the Vicar.

**ROUTES.**—The geological party, under the leadership of Mr. Johns and Mr. Hawkesworth, will proceed, on the arrival of the 10-18 a.m. at Horton, to Bee Croft Hall and Gillet Brice Head, and will work south along the Western Escarpment of Ribblesdale (including the great quarries) to Helwith Bridge; thence a return will be made to Horton on the outcrops of the pre carboniferous rocks. Should time permit, Dowgill, near the village, will be examined.

**PERMISSION** to visit their properties has been kindly granted by Messrs. Jas. Anson Farrer, of Ingleborough Hall; John Foster, of Dank Ghyell; John Delany, of Settle; T. Benson, P. Ford, of Bentham; John Hammond, of Lincoln's Inn; and the Ribblesdale Lime Co.

Members are particularly requested to keep away from heather covered patches, as most of the moors have been temporarily let to strangers, and grouse shooting is now in progress. It is confidently anticipated that members will, as usual, do all in their power to discourage the uprooting of ferns and rare plants.

**GEOLOGY.**—The Geological Section will be officially represented by Mr Cosmo Johns and Mr. E. Hawkesworth.

Mr. Hawkesworth writes :—The pre carboniferous rocks of the Horton area will well repay attention. The valley is cut through them from Horton to Great Stainforth, where they are terminated by the Craven fault. They are well exposed on both sides of the dale, but particularly so on the western side, where they are quarried extensively, and the junction between them and the overlying carboniferous rocks is shown vividly. Professor T. Mc K. Hughes, in his paper in Proc. Yorks. Geol. Soc., quoted above, gives the following succession.

- A. Silurian—*a.* Studfold Sandstone.  
*b.* Horton Flags (Upper Coniston Flags of Lake District).  
*c.* Austwick Grits.  
*d.* Pale Slates and Graptolitic Mudstones with subordinate Limestones.  
*e.* Basement Bed of Silurian.
- B. Bala Beds (Ordovician).

The classification of the Geological Survey is somewhat different. There is a good section of the lower beds in Delaney's Quarry. The section of Crag Hill is full of interest, showing the Silurians folded over the Bala beds. The Horton Flags, which have an estimated thickness of 2,000 feet, are worked at Areo Wood Combs and Dry Rigg quarries, many fossils having been found at the latter place, in calcareous concretions. Graptolites may be found in the quarry at Helwith Bridge.

Mr. R. H. Rastall, in a recently published paper, places the beds below the Coniston Limestone, at Dow Gill and Row End, near Horton, in his Ingletonian series of slates and grits, which he concludes to be of pre-Cambrian age.

**BOTANY.**—The Botanical Section will be officially represented.

**Flowering Plants.**—Mr. Wm. West writes :—Among the flowering plants are *Actæa spicata*, *Thalictrum minus*, *Trollius*, *Cardamine impatiens*, *Draba incana*, *Cochlearia alpina*, *Geranium sanguineum*, *G. sylvaticum*, *Poterium sanguisorba*, *Rubus saxatilis*, *R. Chamaemorus*, *Pyrus rupicola*, *Sedum rhodiola*, *Saxifraga oppositifolia*, *S. hypnoïdes*, *Galium sylvestre*, *Scabiosa Columbaria*, *Antennaria diviæ*, *Carduus heterophyllus*, *Carlina*, *Primula farinosa*, *Daphne mezereum*, *Listera cordata*, *Blysmus compressus*, *Carex rigida*, *Sesleria cærulea*, *Lycopodium clavatum*, *L. alpinum*, *L. Selago*, *Selaginella*, *Asplenium viride*, *Cryptogramme crispa*, *Polypodium Robertianum*, *Cystopteris fragilis*, etc.

**Mosses and Hepatics.**—The Yorkshire Byrological Committee will be officially represented.

Mr. West writes :—Among the very numerous species which occur here, belonging to this section, are the following :—*Andreaea petrophila*, *A. crassinervis*, *A. Grimsulana*, many species of *Sphagnum*, *Rhabdoweisia fugax*, *Dicranum fuscescens*, *Ditrichum flexicaule*, *Trichostomum mutabile*, *Barbula intermedia*, *Ulota Bruchii*, *Bartramia Ederi*, *Breutelia*, *Mnium serratum*, *M. undulatum* in fruit, *Myurella julacea*, *Pseudoleskea catenulata*, *Jungermannia cordifolia*, *J. spherocarpa*, *J. riparia*, *Nardia emarginata*, *Reboulia hemispherica*, *Preissia commutata*, etc.

W. Ingham writes :—Horton is an excellent centre for the bryologist, as the following plants indicate, all of which grow close by this place.

*Weisia ripensis*, *Barbula recurvifolia*, *B. vinealis*, *Tortula intermedia*, *Swartzia montana*, *Grimmia trichophylla* on slate rocks, *Racomitrium fasciculare*, *Zygodon mougeotii*, *Splachnum sphaericum*, *Bartramia Ederi*, *Plagio-bryum Zierii*, *Antitrichia curtipendula*, *Orthothecium intricatum*, *Brachythecium populeum*, *B. plumosum*, *Plagiothecium pulchellum*, *P. elegans*, the last on Penyghent crags.

*Lunularia cruciata*, *Frullania Tamarisci*, *Pellia endiviaefolia*, *Aneura sinuata*, *Metzgeria pubescens*, *Anthoceros punctatus*, and on Penyghent, the following rarities:—*Cololejeunea calcarea*, *Cephalozia connivens*, *Scapania resupinata*, *Mylia Taylori*, *Aplozia cordifolia*, *Lophozia sphaerocarpa*, and *Marsupella emarginata*.

*Ptilidium pulcherrimum*, a great rarity, grows on mossy limestone above Donk Gill—a very interesting gill for both mosses and hepatics.

**Lichens.**—Mr. Wm. West writes—The lichens are numerous, especially the saxicolous ones; among the species occurring are:—*Collema flaccidum*, *C. melcenum*, *Leptogium lacerum*, *Sphaerophoron coralloides*, *Cladonia cervicornis*, *Evernia purpuracea*, *E. prunastri*, *Cetraria islandica*, *Solorina saccata*, *Parmelia laevigata*, *P. tiliacea*, *Squamaria crassa*, *S. gelida*, *Placidium murorum*, *Lecidea vesicularis*, *Endocarpon minutum*, *E. rufescens*, etc.

**Algæ.**—Mr. West writes:—A large number of species occur, particulars of many of which will be found in the Alga-flora of Yorkshire.

**Fungi.**—The Yorkshire Mycological Committee will be officially represented.

**VERTEBRATE ZOOLOGY.**—The Vertebrate Section will be officially represented.

**Mammals.**—We have practically no records for the district, the Mole, Weasel, Stoat, Hare, and Rabbit being the only species recorded. It should be easily possible to extend this list, especially amongst the smaller species.

**Reptiles.**—Again we have a very meagre list, the Frog and Adder being the only species recorded.

**Fishes.**—The rivers are strictly preserved, consequently Trout are extremely abundant. Minnows are to be found, and probably the Loach and Bull-Head, and although not coming under the head of vertebrates, it may be interesting to know that the Crayfish occurs.

**Birds.**—The time of year is not a very suitable one for birds, as many will already have left the district, and others will be very silent. Dippers and Yellow Wagtails are very numerous. The Grey Wagtail and Pied Wagtail are also to be met with. Kingfishers were not met with at all during the last visit of the Union. Sandpipers are plentiful, but most of them will already have departed. Most of the ordinary species may be seen in the valleys. The Reed Bunting and Skylark which appeared to be missing in the neighbouring valley of Littondale will be found here, also several species of warblers; Sedge Warbler, and Whitethroat, for instance. It will be interesting to compare the avi-fauna of this valley with that of Littondale, which the Union has so recently visited. On the moors the Merlin, Twite, Golden Plover, Curlew, and Snipe are to be found, and amongst the birds of prey the Kestrel, Sparrow Hawk, and Tawny Owl are residents. The Peregrine Falcon and Raven annually endeavour to nest on Penyghent, and a few Magpies still survive the gamekeeper's gun.

#### PROGRAMME OF MEETINGS:—

|   |                           |
|---|---------------------------|
| At 5.0 p.m. prompt, Meat Tea 2/- each,                    | } At Golden Lion, Horton. |
| „ 5.45 p.m., Sectional Meetings,                          |                           |
| „ 6.0 p.m.—General Meeting,                               |                           |
| Trains for Hellfield leave Horton at 5 p.m. and 6.41 p.m. |                           |
| „ Hawes Junction leave Horton at 5.25 p.m.                |                           |

In order that an early account of the excursion may appear in the "Naturalist," notes and reports should be forwarded before September 16th, to the Secretary of the V N.U., the Museum, Hull.

# Yorkshire Naturalists' Union.

President :

CHARLES CROSSLAND, F.L.S., Halifax.

Hon. Secretary :

T. SHEPPARD, F.G.S., Municipal Museum, Hull.

## THE 206TH MEETING

WILL BE HELD AT

# GRASSINGTON

For a Fungus Foray,

At GRASS WOODS, BUCKDEN WOODS, and BOLTON WOODS,

From Saturday, Sept. 21st, to Thursday, Sept. 26th, 1907.

Chairman of Mycological Committee :

GEORGE MASSEE, F.L.S., F.R.H.S., of the Royal Herbarium, Kew.

Hon. Sec., Mycological Committee :

CHAS. CROSSLAND, F.L.S., 4 Coleridge Street, Halifax.

**RAILWAY ARRANGEMENTS.**—Through return tickets at pleasure party rates will be issued at all stations on the G.C., G.N., H. & B., L. & Y., L. & N.W., Midland, and N.E. Railways, which have booking arrangements for GRASSINGTON to Members and Associates of the Y.N.U., surrendering the Certificate noted below. Tickets taken on Friday, September 20th, will be available for return on Friday, September 27th. Where through bookings are not in operation Members may book to most convenient junction, and re-book to destination, the reduced fares being available for each stage of the journey.

**N.B.**—The Railway Booking Clerks will only grant these reduced fares to Members and Associates producing a Special Certificate signed by the Secretary of the Union. Members and Associates wishing for this Certificate must apply to Mr. Sheppard for it. At stations on the N.E. Rly tickets at the reduced fares will be issued on production of the signed card of membership.

**PERMISSION** to visit their estates has been kindly granted by the Duke of Devonshire and other landowners.

**THE AREAS** to be investigated are Grass Woods, Buckden Woods, and Bolton Woods; also the adjoining Pastures and Parks.

**HEADQUARTERS** will be at the "Wilson Arms" Hotel, Grassington Station. **TERMS**:—5/6 per day.

Application for accommodation at Headquarters must be made to Mr. C. Crossland, not later than September 6th.

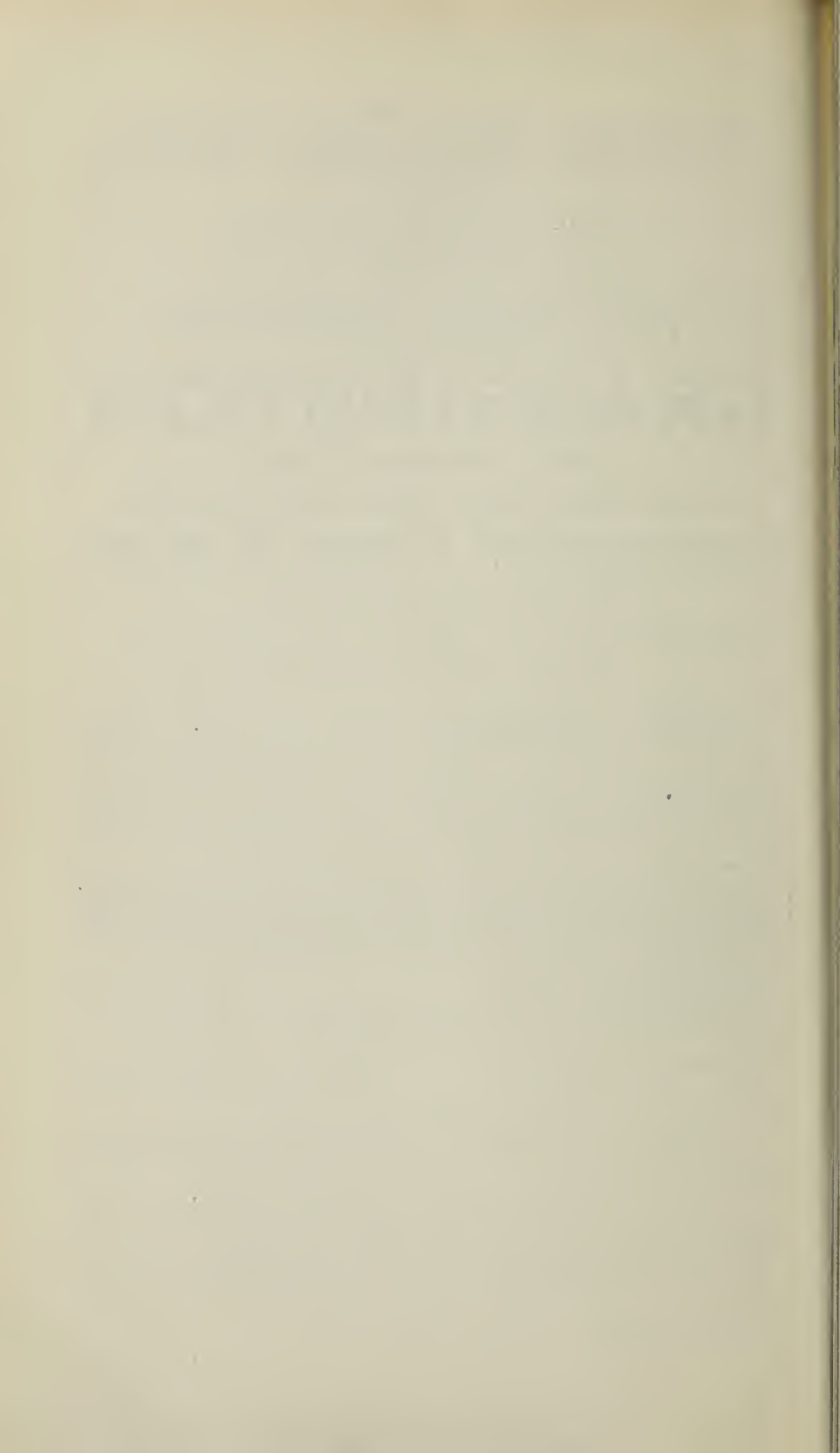
**ROUTES.**—Saturday Afternoon will be given to Grass Woods and neighbourhood. If arrangements can be made, Bolton Woods will be visited on Monday and Buckden on Tuesday.

Consignments of fungi from any part of Yorkshire will be welcome, and will receive every attention; a list of the species sent will be returned if desired. The specimens should be carefully packed with grass or moss (not paper), in suitable boxes and addressed to the Secretary, Mycological Committee.

Papers on Mycological Topics will be read on the Monday and Tuesday evenings.

The usual Business Meeting of the Mycological Committee will be held on the Wednesday evening.





# Yorkshire Naturalists' Union.

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**President :**

[CHARLES CROSSLAND, F.L.S., Halifax.

**President=Elect :**

Dr. WHEELTON HIND, F.G.S.

**Ex=Presidents :**

Rev. Wm. FOWLER, M.A., Liversedge. £  
H. CLIFTON SORBY, LL.D., F.R.S., etc., Sheffield.  
JOHN GILBERT BAKER, F.R.S., F.L.S., Kew.  
Rt. Hon. LORD WALSHINGHAM, M.A., F.R.S., Thetford, Norfolk.  
Rev. W. H. DALLINGER, LL.D., F.R.S., etc., London.  
Sir RALPH PAYNE GALLWEY, Bart., M.B.O.U., Thirkleby Park.  
WILFRID H. HUDLESTON, M.A., F.R.S., London.  
HENRY EELES DRESSER, F.L.S., F.Z.S., London.  
R. H. TIDDEMAN, M.A., F.G.S., Oxford.  
ROBERT BRAITHWAITE, M.D., F.L.S., London.  
Prof. W. BOVD DAWKINS, M.A., F.R.S., Manchester.  
WILLIAM WEST, F.L.S., Bradford.  
GEORGE T. PORRITT, F.L.S., F.E.S., Huddersfield.  
|Prof. PERCY F. KENDALL, M.Sc., F.G.S., Leeds.  
W. DENISON ROEBUCK, F.L.S., Leeds.  
A. H. PAWSON, J.P., F.L.S., F.G.S., London.  
G. W. LAMPLUGH, F.R.S., F.G.S., London.  
W. EAGLE CLARKE, F.R.S.E., Edinburgh.

**Hon. Secretary :**

T. SHEPPARD, F.G.S., Municipal Museum, Hull.

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## THE 207TH MEETING

AND

## 46th ANNUAL MEETING,

WILL BE HELD AT

# HALIFAX,

ON

## Saturday, December 14th, 1907.

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**RAILWAY ARRANGEMENTS.**—Through return tickets at pleasure party rates will be issued at all stations on the G.C., G.N., H. & B., L. & Y., L. & N.W., Midland and N.E. Railways, which have booking arrangements for HALIFAX to Members and Associates of the Y.N.U., surrendering the

**Bankfield Museum** (where the Meetings will be held), was formerly the residence of the late Edward Ackroyd, Esq. It was acquired by the Halifax Corporation and converted into a Public Library, Museum, and Art Gallery, and the grounds into a public park.

The Exhibits at Bankfield Museum consist mainly of specimens representing Ethnology, Local History and Numismatics. For a provincial town the ethnological collections are very good, and the local historical collections are very fair, arousing considerable interest. The numismatic collections are still in course of arrangement. Art is only slightly represented and this chiefly by the loan collections from South Kensington. The Hon. Curator (Mr. H. Ling Roth), has kindly promised to guide visitors round the museum in the course of the afternoon and evening.

**A Selection of Drawings and Photographs to illustrate Decoration in Local Domestic Architecture from Mediæval Times to the end of the 17th century.** (Room 11).

Mr. H. P. Kendall writes:—The parish of Halifax is rich in examples of ancient Halls of a type peculiar to the district, many of which, whilst retaining the timbers of a Mediæval building were cased with stone in the first half of the 17th century.

In the Mediæval period the internal walls were frequently decorated by designs, more or less imaginative, a survival and imitation of the tapestry of the preceding period. This was followed by panelling in oak and moulding in plaster of a highly decorative character, in which a shield of Arms usually forms the principal feature. This form of decoration was particularly favoured during the Stuart Régime, and many fine examples are still preserved in old houses in the Parish.

**Tramways Information.**

Electric Cars leave Union Street (three minutes walk from Railway Station) at every quarter of the hour for Boothtown and Queensbury. Visitors must ask to be set down at "Bankfield." Cars pass Bankfield to town two minutes after each quarter of the hour and occupy about eight minutes. Fare 1d. **York Cafe** is two minutes walk from the Union Street terminus and one minute from G.P.O.

**Railway Time-Table.**

Trains leave Halifax (Horton Street Station), for:—

|                                 |   |  |
|---------------------------------|---|--|
| Lancashire<br>and<br>Yorkshire. | } | Darlington and Scarborough, 8-15 p.m.                        |
|                                 |   | Hull, York, 8-15, 9-18.                                      |
|                                 |   | Leeds, 9-15, 9-43, 10-51.                                    |
|                                 |   | Bradford, 9-43, 10-18, 10-51.<br>Hebden Bridge, 9-31, 10-38. |

|        |   |   |
|--------|---|---|
| G.N.R. | } | Trains leave North Bridge Station for all stations to Bradford and Keighley, 8-57, 10-26. |
|--------|---|---|

**Election of Ten Additional Members of General Committee**

Voting papers are not sent out this year, but members may vote by post-card addressed to the Secretary, making their choice from the List of Members.

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**NEW MEMBERS.**—A special effort is being made to get a good list of new members for the Halifax Meeting. Towards this the Hon. Secretary would be glad to receive the enclosed form duly filled in. The Subscription is 10/6 per annum, and members receive the *Naturalist*, *Transactions*, etc., free. The new volume of the *Naturalist*, commences on January 1st.

# Yorkshire Naturalists' Union.

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## President :

Dr. WHEELTON HIND, B.Sc., F.G.S., Stoke-on-Trent.

## Ex-Presidents :

Rev. Wm. FOWLER, M.A., Liversedge.  
H. CLIFTON SORBY, LL.D., F.R.S., etc., Sheffield.  
JOHN GILBERT BAKER, F.R.S., F.L.S., Kew.  
Rt. Hon. LORD WALSHINGHAM, M.A., F.R.S., Thetford, Norfolk.  
Rev. W. H. DALLINGER, LL.D., F.R.S., etc., London.  
Sir RALPH PAYNE GALLWEY, Bart., M.B.O.U., Thirkleby Park.  
WILFRID H. HUDLESTON, M.A., F.R.S., London.  
HENRY EELES DRESSER, F.L.S., F.Z.S., London.  
R. H. TIDDEMAN, M.A., F.G.S., Oxford.  
ROBERT BRAITHWAITE, M.D., F.L.S., London.  
Prof. W. BOYD DAWKINS, M.A., F.R.S., Manchester.  
WILLIAM WEST, F.L.S., Bradford.  
GEORGE T. PORRITT, F.L.S., F.E.S., Huddersfield.  
Prof. PERCY F. KENDALL, M.Sc., F.G.S., Leeds.  
W. DENISON ROEBUCK, F.L.S., Leeds.  
A. H. PAWSON, J.P., F.L.S., F.G.S., London.  
G. W. LAMPLUGH, F.R.S., F.G.S., London.  
W. EAGLE CLARKE, F.R.S.E., Edinburgh.  
CHARLES CROSSLAND, F.L.S., Halifax.

## Divisional Secretary :

RILEY FORTUNE, F.Z.S., Penrhyn House, Haywra Street, Harrogate.

## Hon. Secretary :

T. SHEPPARD, F.G.S., Municipal Museum, Hull.

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## THE 208TH MEETING

WILL BE HELD AT

# BRAFFERTON,

For the Investigation of

LECKBY CARR, BALDERSBY PARK,

CUNDALL, DISHFORTH, Etc.,

ON

## Saturday, May 16th, 1908.

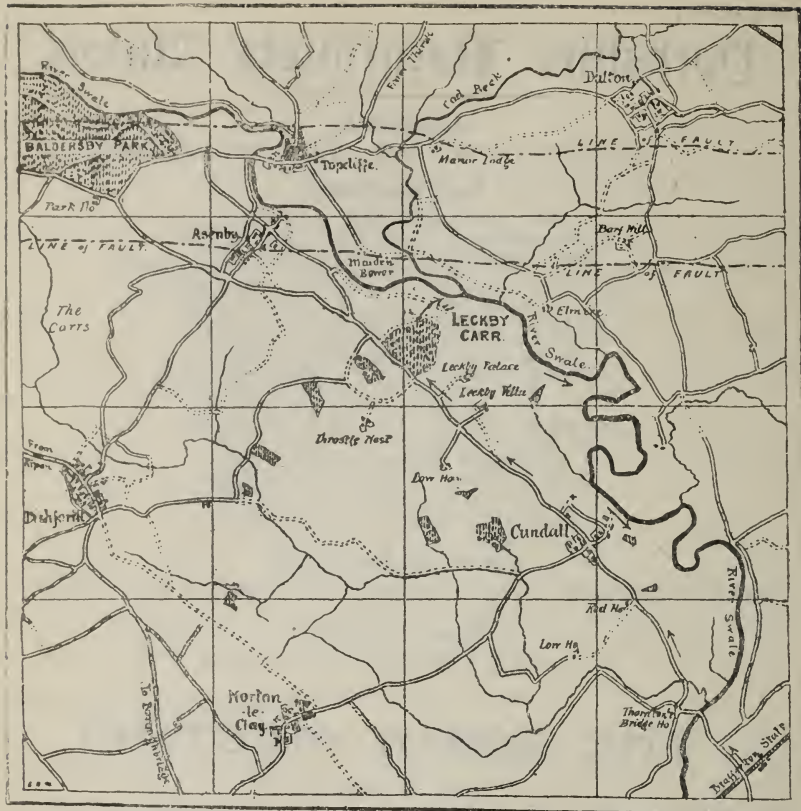
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**RAILWAY ARRANGEMENTS.**—Through return tickets at pleasure party rates will be issued at all stations on the G.C., G.N., H. & B., L. & Y., L. & N.W., Midland and N.E. Railways, which have booking arrangements for TOPCLIFFE, to Members and Associates of the Y.N.U., surrendering the Certificate noted below. Tickets taken on Friday, May 15th, will be available for return on Monday, May 18th. Where through bookings are not in operation Members may book to most convenient junction, and re-book to destination, the reduced fares being available for each stage of the journey.

Those members who join the party working from Boro'bridge to Brafferton should break their journey at Boro'bridge.

N.B.—The Railway Booking Clerks will only grant these reduced fares to Members and Associates producing a Special Certificate signed by the Secretary of the Union. Members and Associates wishing for this Certificate must apply to Mr. Sheppard for it. At Stations on the N.E. Rly. tickets at the reduced fares will be issued on production of the signed card of membership.





**BOOKS AND MAPS.**—The whole area is included in Sheets 52 (Ripon) and 62 (Harrogate) of the one inch ordnance map, which may be had geologically coloured. The Circular of the 90th Meeting (Brafferton, May 18th, 1891), and the report of the Excursion published in "The Naturalist," August, 1891, pp. 233-240 contain a good deal of information in all branches of Natural History. See also Baker's "North Yorkshire," Nelson's "Birds of Yorkshire," etc. Copies of 90th Circular can be obtained from the Secretary, price 2d. each.

**THE DISTRICT** to be investigated is the only portion of *North West* Yorkshire which comes within the low lying area of the Plain of York and lies between the rivers Swale and Yore near their confluence, and it is requested that members will confine their investigation to the country lying south and west of the Swale and north and east of the Yore.

The district is mainly agricultural land, with but few plantations or woods, but the ditches, streams, and ponds, as well as the two rivers themselves, should be carefully investigated for aquatic forms of life.

In the northern portion, Baldersby Park and Woods offer scope for searching for woodland species, and in the extreme south, close to the confluence of the rivers on Ellingthorpe Ings, is the battlefield of Myton, fought 1319, called the "White Battle," or the "Chapter of Myton," from the large number of ecclesiastics who took part in it on the English side.

As a whole, the district is one which has been very little investigated, even by the Ripon naturalists, to whom it is so readily accessible.

**ROUTES.**—Members will leave Brafferton Station on the arrival of the 10-36. The general body of naturalists will investigate Leckby Carr and the neighbourhood, returning along the banks of the Swale. The vertebrate zoology section will proceed to Baldersby Park. The geologists will examine the sections mentioned in Mr. T. C. Mitchell's notes. A conchological and general naturalists' party will walk from Boro'bridge to Brafferton, working the ditches and plantations alongside the Yore and Swale rivers, under the guidance of the officers of the conchological section. This route is outside (south of) the map given herewith.

For those members who would like to drive to Baldersby Park and walk back a *limited* number of seats in conveyances may be arranged for if *early* application is made to Mr. Fortune.

**PERMISSION** to visit their properties has been kindly granted by Viscount Downe, Lord Leonfield, the Marquis of Ripon, John Brennard, Esq., B. A. Woode, Esq., and Marmaduke Furness, Esq.

**GEOLOGY.**—The geological section will be officially represented by Mr. Cosmo Johns and Mr. E. Hawkesworth.

Mr. T. Carter Mitchell, F.S.A., writes in the 1891 circular:—"In consequence of a very extensive double fault which occurred after the deposit of the chalk, and which reaches from the east coast to the magnesian limestone a few miles north of Ripon, the Lias formation still remains unremoved by denudation as far westward as the district which is to be investigated, whereas on both sides of the fault, the Trias extends some miles further to the east before it underlies the Lias. I am aware that on the geological Ordnance Map the line which is supposed to mark the southern boundary of the fault passes close to Asenby village, but I have reasons for thinking this wrong, as I have found Lias fossils considerably south of this line, and I am informed that in boring for water on the hill near Cundall Vicarage, the Lias was found to underlie this at considerable depth.

The district which is to be searched is one which should yield a diversity of objects of interest, as it lies on the borderland where the Keuper sandstones of the Trias meet the limestones and the shales of the Lias, the two formations being separated by a narrow belt of the Rhætic beds, which are the passage beds between the two, and partake of the character of both, but are generally considered by geologists to belong to the Trias.

At Asenby Gravel Pits, about half a mile up the river, a good section of the moraine is to be seen. The great variety of rocks from which the gravel was derived is well worth noticing. They range from Silurian to New Red Sandstone inclusive, and are interspersed with pieces of Shap granite, and other igneous rocks. In one part of the narrow road between the gravel hill and the river, is seen a section of the Lias rock "*in situ*," but much ground and shattered by the glacier which crept over it. A mile further on at Asenby stream, a good section of the Lower Lias may be seen again underlying a hill of sandy gravel. At Holme Banks, a wood running along the river side, between Baldersby Park and Baldersby Church, there is an outcrop of new red sandstone. From the Lias limestone, where it forms the bed of the Swale at Asenby stream, I have obtained many fossils, including *Lima*, *Ostrea*, and other Lamellibranchs, a small Crustacean, Pentacrinite stems, Serpulæ, etc. On the opposite side of the Swale to the Asenby Gravel Pits, are some remarkable earthworks."

**BOTANY.**—The Botanical Section will be officially represented by the President, Mr. W. G. Smith, Ph.D.

**Flowering Plants.**—Dr. Smith writes:—Botanical Survey: Special attention should be paid to the distribution of vegetation in the Carrs of the District, which are now the only vestiges of what existed over much of the vale of York.

In the 90th Circular will be found a long list of plants by Mr. Foggitt, of Thirsk.

**Mosses and Hepatics.**—The Yorkshire Bryological Committee will be officially represented by Mr. W. Ingham, B.A.

Mr. Ingham writes:—The best ground for these plants is Leckby Carr, which, although it has been affected by drainage, still produces some rare and interesting plants. At a visit in 1898, the following were found:—

**HEPATICS:**—*Cephalozia fluitans*, *C. connivens*, *Mylia taylori*, *Lopocolea heterophylla*, and *Lophozia ventricosa*.

**SPHAGNA:**—*S. medium*, v. *roseo-pallescens* (very rare), *S. cymbifolium* v. *glaucescens*, *S. recurvum* v. *mucronatum*, and *S. rubellum* v. *pallescens* (very rare).

**MOSSSES:**—*Tetraphis pellucida* in fruit, *Dicranella cerviculata*, *Campylopus pyriformis* in fruit, *Eucalypta vulgaris*, *Webera nutans* v. *longiseta*, *Mnium affine*, and *Aulacomnium androgynum*. The *C. fluitans* was growing with the rare Phanerogam, *Drosera anglica*.

**Fungi.**—The Yorkshire Mycological Committee will be officially represented by Messrs. Crossland, F.L.S., W.N. Cheesman, C.H. Broadhead, and H.C. Hawley.

Mr. Crossland writes that several Spring species of Fungi may be found. There are few or no records for the district.

**VERTEBRATE ZOOLOGY.**—The Vertebrate Section will be officially represented by the President, Mr. R. Fortune, F.Z.S., and two of the Secretaries, Messrs. Booth, M.B.O.U., and Parkin.



Mr. R. Fortune writes: The District has never been thoroughly worked. In **Mammalia** most of the common species have been noticed, but information is especially wanted about the Bats and Mice. The Badger occurs, and also the Otter, and in Baldersby Park is a herd of Fallow Deer.

**Birds.**—The District is particularly suited for the smaller species. The last time the Union visited the neighbourhood, 60 species were observed, Warblers and Tits being very plentiful. The following interesting birds may be expected:—Tawny, Barn and Long-eared Owls, Kingfisher, Green and Great Spotted Woodpecker, Nuthatch, Grasshopper Warbler, etc.

**Reptiles and Amphibians.**—In this branch there is scope for further investigation, only two records being available: Common Lizard and Great Crested Newt.

**Fishes.**—The Swale is very prolific in fish life, especially in those species known as "scale" fish. Trout occur, but not abundantly. Grayling are fairly plentiful, and the curious and rare Burbot is found. The Ten-spined Stickleback was discovered during the last meeting of the Y.N.U. between Asenby and Dishforth.

**CONCHOLOGY.**—The Conchological Section will be officially represented by its president, Mr. W. Harrison Hutton; its Secretary, W. Denison Roebuck, F.L.S., and Mr. John W. Taylor.

**Land and Freshwater Mollusca.**—When the Union visited the District in May, 1891, and worked the country from Brafferton by Cundall and Lecky Carr to Asenby they obtained *Arion minimus*, *A. circumscriptus*, *Limax maximus*, *Vitrina*, *Zonites cellarius*, *Z. alliarius* and var. *viridula*, *Z. nitidulus* and *Z. purus*, *Helix aspersa*, *H. hortensis*, *H. hispida*, *H. cantiana*, *H. rotundata*, *Limnaea peregra*, *Physa hypnorum* (commonly in a pond near the Swale at Cundall), *Planorbis spirorbis*, *P. umbilicatus*, *P. contortus*, *Bythinia tentaculata*, *Pisidium pusillum*, and *P. fontinale*. On this occasion it is hoped that attention will be given to other parts of the area between Yore and Swale, and the main walking party will alight at Boroughbridge, cross the Yore there and work down the left bank of that river to its point of confluence with the Swale, and thence up the right bank of Swale to Brafferton. This part of the District lies outside and south of the map given in the circular. The principal object is to investigate the freshwater shells of this the only low-lying portion of North-west Yorkshire. It is hoped that cyclist conchologists will cover more ground and work the ditches, streams, and ponds about Dishforth, Norton-le-Clay, and the woods and plantations of Baldersby Park, etc.—W. D. R.

**ENTOMOLOGY.**—The Entomological Section will be officially represented by its President, W. Denison Roebuck, F.L.S.

*Hymenoptera*, *Hemiptera*, *Diptera*.—Specimens of these orders collected should be handed or sent to Mr. Denison Roebuck, and of *Orthoptera* and *Neuroptera* to Mr. G. Porritt, F.L.S., in all cases with exact notification of locality, etc.

**COLEOPTERA.**—The Yorkshire Coleoptera Committee will be officially represented by Mr. M. L. Thompson, F.E.S.

Mr. E. G. Bayford writes:—"The immediate neighbourhood has been visited several times previously. Two of these excursions furnished interesting lists of beetles. The first of these to Lecky Carr, on May 18th, 1891, may be found described at length with full records in "The Naturalist" for that year, pp. 233-240. The season that year was similar to the present one, exceptionally late, but in spite of that such uncommon species as *Acidota crenata* F., *Anatis ocellata* L., *Elatер balteatus* L., and *Deporaus betulae* L. were met with. The second to Coxwold and Byland, held on the 15th September, 1892, is similarly described in "The Naturalist" for that year, pp. 343-354. The lengthy list of beetles met with on that occasion totals 110 species, consisting, as one would expect from the time of the year and the presence of many distinguished mycologists, largely of fungivorous species. In the circumstances the first-named of these lists will best indicate the kind of species likely to be met with on this excursion."

#### PROGRAMME OF MEETINGS.—

5-30 p.m. prompt, Meat Tea, 1/6 each, at the Golden Lion, Helperby.

6-30 p.m., Sectional Meetings } In the Schoolroom,

7-0 p.m. General Meeting } Helperby.

NOTE.—Brafferton and Helperby are practically one.

Trains leave for Harrogate, Leeds, &c., 6-1 p.m. and 8-50 p.m.

Trains leave for the North and York, 5-21 p.m. and 8-19 p.m.

NOTE.—Catering, owing to the uncertainty of the numbers likely to be present, is a little difficult in this district. If those members who intend attending would send a post card to Mr. Fortune, it would considerably facilitate matters.

In order that an early account of the Excursion may appear in "The Naturalist," notes and reports should be forwarded before May 25th, to the Secretary of the Y.N.U., the Museum, Hull.

# Yorkshire Naturalists' Union.

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**President :**

Dr. WHEELTON HIND, B.Sc., F.G.S., Stoke-on-Trent.

**Divisional Secretary :**

J. W. STATHER, F.G.S., Brookside, Newland Park, Hull.

**Hon. Secretary :**

T. SHEPPARD, F.G.S., Municipal Museum, Hull.

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## THE 209TH MEETING

WILL BE HELD AT

# HORNSEA,

For the investigation of the Mere and the Coast from  
Skipsea Brough to Aldborough,

ON

## Whit Week-end, June 6th to 8th, 1908.

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**RAILWAY ARRANGEMENTS.**—Through return tickets at pleasure party rates will be issued at all stations on the G.C., G.N., H. & B., L. & Y., L. & N.W., Midland and N.E. Railways, which have booking arrangements for HORNSEA, to Members and Associates of the Y.N.U., surrendering the Certificate noted below. Tickets taken on Friday, June 5th, will be available for return on Tuesday, June 9th. Where through bookings are not in operation Members may book to most convenient junction, and re-book to destination, the reduced fares being available for each stage of the journey.

Week-end tickets are issued to Hornsea on Fridays and Saturdays from all North Eastern Stations at a single fare for the double journey, and similar bookings are in operation from most of the other Companies' Stations in Yorkshire. These tickets are ordinarily available for return on the Sunday, Monday, or Tuesday, but for the Whitsuntide Holidays the availability will be extended to include the Wednesday.

**NOTE.**—On Whit-Monday there will be a special train service, trains leaving Hull at 9-16, 9-35, 11-50, 12-10, 1-45 and 2-10.

**N.B.**—The Railway Booking Clerks will only grant these reduced fares to Members and Associates producing a Special Certificate signed by the Secretary of the Union. Members and Associates wishing for this Certificate must apply to Mr. Sheppard for it. At Stations on the N.E. Rly. tickets at the reduced fares will be issued on production of the signed card of membership.

**BOOKS AND MAPS.**—The whole area for investigation is included in Sheets 94 N.E. (Skipsea) and 94 S.E. (Hornsea) of the One-Inch Ordnance Map, which may be had geologically coloured. Fretwell's Illustrated Guide to Hornsea, N.D., 6d., contains chapters on the Flora by Mr. J. F. Robinson, the Geology by Mr. J. W. Stather, and the Mollusca by Mr. F. W. Fierke. The Naturalist for July, 1881, pp. 194-196, contains full reports of the work done by the Union on



its visit to Hornsea in June, 1881. "The Flora of the East Riding," by Mr. J. F. Robinson; "On a section in the Post-Glacial Deposit at Hornsea," by Mr. Sheppard (Nat. December, 06); "Geological Rambles in East Yorkshire," by Mr. T. Sheppard, F.G.S.; "Birds of Yorkshire," by Mr. T. H. Nelson; "Alga Flora of Yorkshire," by Messrs. W. West and G. S. West; "The Fungus Flora of Yorkshire," by Messrs. C. Crossland and G. Masee; "The Geology of Yorkshire," in the Victoria County History, by Prof. P. F. Kendall, may also be referred to.

**THE DISTRICT** to be investigated consists of the neighbourhood of Hornsea Mere, the remarkable earthworks at Skipsea Brough, and the coast line from Skipsea to Aldborough.

**HEADQUARTERS.**—The Alexandra Hotel, Hornsea. **TERMS:** 6/6 per day, including bed, breakfast, dinner, and tea.

All available rooms at the hotel, some of which are double-bedded, have been secured by Mr. Sheppard, to whom application should be made at once. It will be useless applying to the hotel. The rooms will be apportioned in the order of application.

**EVENING MEETINGS.**—These will be held in a room set apart in the hotel.

**ROUTES.**—These will be left in the hands of leaders of sections. Notices will be left at the hotel for later arrivals.

The Mere and its surroundings will probably appeal to the general body of naturalists; the coast to geologists and marine zoologists.

Sat. June 6th. On the arrival of the train from Hull at 10-28, a party will walk along the coast to Aldborough for the examination of the cliff sections. Members arriving by later trains should walk along the coast, southwards, to meet the earlier party returning.

June 7th.—The fauna and flora of the Mere will be investigated. The gravel terraces will be of interest to geologists.

Whit-Monday, June 8th.—On the arrival at 9-52, of the train leaving Hull at 9-16, the party will proceed northwards to Skipsea Brough. Conveyances will meet the train; fare 1/-. The remarkable prehistoric earthworks will be examined, and described by Mr. Sheppard.

Members desiring to investigate the Mere are recommended to leave the train at Hornsea Bridge Station.

Members of the Hull Scientific and Field Naturalists' Club, and of the Hull Geological Society will act as leaders.

**PERMISSION** for Hornsea Mere is granted by Mr. H. S. Constable, J.P., and for Skipsea Brough by Mr. C. Goodlass.

**GEOLOGY.**—The Geological Section will be officially represented by Mr. J. W. Stather, F.G.S., and Mr. T. Sheppard, F.G.S.

Mr. J. W. Stather writes:—With the exception of certain deposits of later date, Hornsea is entirely composed of glacial accumulations, the joint product of native and Scandinavian glaciers during the great ice age, and there seems no doubt that before the ice reached our shores, the district was a wide bay, with the sea running quite up to the foot of the wolds, its shore line roughly coinciding with the present line of railway from Hull to Bridlington. The long cliff sections north and south of Hornsea are among the best exposures of lowland drift in Britain, or even in Europe, and are well worth careful study.

**Post Glacial Deposits.**—On the shore opposite Skipsea, and resting on boulder clay, will be seen an extensive deposit of fresh water marls, peat, etc., marking a time when Holderness was occupied by a series of meres, of which Hornsea Mere is the only remaining example. Deposits of a similar kind occur on the beach at Hornsea, and also on the cliff at Hornsea Burton. For lists of fish, shell and plant remains from these deposits, see Mr. Sheppard's paper in "The Naturalist," December, 1906.

**Glacial Beds.**—It will be noted that the coast sections, though much obscured by slips, show distinct bands of boulder clay, separated by irregular deposits of silt and gravel. The clays are full of boulders, many of them beautifully striated, from

widely separated sources; gneisses, Crystalline schists, granites, and the peculiar igneous rocks of Norway being found side by side with local chalk, Oolites and Lias. The whin sill and carboniferous series of Teesdale are also well represented, and a few types from the Cumberland Hills and the Eden Valley have been recognized. Fossils derived from the secondary rocks are also common in the clays in the neighbourhood of Aldborough and Hornsea.

**BOTANY.**—The Botanical Section will be officially represented by Mr. J. F. Robinson.

**Flowering Plants.**—Mr. Robinson writes:—Hornsea with its Boulder Clay Cliffs and well-known Mere, perhaps the largest lake in Yorkshire—certainly the largest in the East Riding—has been fairly well investigated in the past, at least so far as the flowering plants, ferns, horsetails, mosses, etc., are concerned, and full accounts of these will be found in “The Flora of the E.R. Yorkshire,” and in Fretwell’s “Guide to Hornsea.” Since the publication of the former we have not learned that anything of importance has been added to what we already know of the higher plants, and this makes it all the more needful that still closer investigation should be made. Some not very common plants still linger in the waters of the mere, along its marshy shores, and on the adjacent terraces. One needs to mention only those that may be flowering at this time of the year:—*Thalictrum flavum*, var.; many of the Batrachian *ranunculi*, including *heterophyllum*, *trico-phyllum* and *circinatus*, but, first of all, the greater spearwort, *Ranunculus lingua*; *Stellaria palustris*; *Ceratophyllum demersum*, *Menyanthes trifoliata* (buck bean), in fine beds near the water’s edge; *Hottonia palustris*, *Orchis incanata*, *O. ustulata*, *Potamogetons* (very well represented and including *P. densus*, *P. luscens*, *P. perfoliatus*, etc.) All our British duckweeds (*Lemna*) grow in the mere, the minute flowers of each species are urgent *desiderata*. The lesser bulrush, *Typha angustifolia*, grows with the greater bulrush and the large clubrush, where the great spearwort may be seen. Many sedges luxuriate here, or were said to, formerly, and *Carex stricta* and *C. filiformis* should, if possible, be found. In the old Botanist’s Guide, 1705, a remarkable form of moonwort (*Botrychium lunaria*) is said to grow near the ‘lake at Hornsea.’ Moonwort and adder’s tongue are still to be found, the former on most old gravelly mounds in Holderness, but the remarkable form, variety or subspecies, has not recently been observed. Let it be sought for.

**Mosses and Hepatics.**—A few only, so far, have been noted. See Appendix to “Flora E.R. Yorks.”

**Lichens.**—Three or four of the commonest lichens are plentiful enough on tree trunks and old, damp earthen fences, but there is room here for fuller observation.

**Algæ.**—Of the Algæ, those of the sea will only appear as *rejectmenta* of the waves, there being no sea-side rocky pools; but interesting things are often cast up. Of the freshwater algæ no richer ground (or rather, water) can be found in Yorkshire. Consult Messrs. West’s “Alga Flora of Yorkshire,” where very many references are made to Hornsea, and we believe still more could be added. With a geological bearing it may be noted that the ‘hard’ water of the mere has much of its carbonate of lime crystallised on the plants belonging to *Characeæ*, of which several species abound, and subsequently forms the lacustrine marks so often to be seen in old, dried up mere beds as exposed in the sea-side boulder clay cliffs as at Atwick gap and several other places in the district. The East Yorkshire marls, we believe, owe their calcareous components to these plants (*Charas* or stoneworts) more than to the shells of freshwater molluscs.

**Diatoms.**—Mr. H. R. Philip writes:—The Diatoms of Hornsea Mere are very interesting. The large and conspicuous forms, *Pinnularia nobilis* and *major*, *Stramoneis gracilis*, *Campylodiscus Hibernicus*, *Surirella robusta* and *Cymatopleura elliptica* should be found in abundance. A small and pretty species *Navicula scutelloides*, curiously resembling in shape and markings the shield on which the figure of Britannia on the penny is seated, is almost peculiar to the mere, being recorded for no other locality in Yorkshire. With luck two rarities might be met with, *Cyclotella astræa* and *Melosira granulata*, both recorded by Norman as found in the Hornsea peat deposit. I have found them very rare in living condition in the Mere.

**Fungi.**—The Yorkshire Mycological Committee will be officially represented by Mr. C. Crossland, and other members of the Committee.

Mr. Crossland writes :—Members of the Hull Scientific and Field Naturalists' Club and others have recorded several uncommon species from this district. Careful search for micro species should be made among the vegetation on the margin of the Mere.

**VERTEBRATE ZOOLOGY.**—The Vertebrate Section will be officially represented by Mr. Riley Fortune, F.Z.S., and Mr. H. B. Booth, M.B.O.U.

**Birds.**—Mr. E. W. Wade, M.B.O.U., writes :—This is perhaps the most interesting place in the East Riding from an ornithological point of view, presenting natural features which attract birds seen nowhere else in the district. Of the resident breeding birds, the following are perhaps the most interesting : Blackcap, Garden Warbler, Gold-crested Wren, Reed Warbler, Sedge Warbler, Longtailed Tit, Creeper, Yellow Wagtail, Tree Pipit, Goldfinch, Hawfinch, Common Bullfinch, Reed Bunting, Swift, Great Spotted Woodpecker (occasional), Common Kingfisher, Tawny Owl, Sparrow Hawk, Kestrel. The Heronry is the only one in the East Riding which has survived, numbering annually about 20 nests, sometimes more, sometimes less. Mallard, Shoveller, Pochard, Water-rail, Common Coot. The common Sandpiper may generally be found lurking round the edges of the Mere, though never known to breed there. A Cormorant or two will almost certainly be observed. The Great-crested Grebe unfortunately seems to be becoming extinct, only two or three pairs remaining. Most of our common species may be observed here, whilst of occasional rare visitors the list is a long one.

**CONCHOLOGY.**—The Conchological Section will be officially represented by Mr. W. H. Hutton.

**Land and Freshwater Mollusca.**—The Rev. F. H. Woods, B.D., writes : The Mere abounds in specimens of fresh water Shells. The species of *Planorbis* are well represented (*albus*, *corneus*, *caricatus*, *complanatus*, *vortex*). There are several of the *Pisidia*. It is also one of the few localities of *Physa hypnorum*. *Anodonta* abounds, and there are very fine specimens of Land Shells, and there is at least one species of *Pupa*.

**ENTOMOLOGY.**—The Entomological Section will be officially represented.

**Coleoptera.**—The Yorkshire Coleoptera Committee will be officially represented by Mr. E. G. Bayford.

Mr. Bayford writes :—A number of rare and interesting species has been recorded from Hornsea Mere. These are all riparian Geodephaga, and as most of them were recorded half a century ago, it would be well on this excursion to determine whether they still exist there. Special mention may be made of *Chlaenius nigricornis* P., *C. holosericeus* P., *Odes helopioides* P., *Pterostichus anthracinus* Ill., *P. gracilis* Dej., *P. minor* Gyll., *Amarafulva* De G., *A. convexiuscula* Marsh., *A. acuminata* Payk., *Anchomenus piceus* L., *A. puellus* Dej., *Bembidium assimile* Gyll., *B. gilvipes* Sturm., *B. obliquum* Sturm.

*Dyschirii* and the associated species of *Bledius* should also be looked for, with such characteristic coast species as *Cleonus sulcirostris* L.

Mr. T. Stainforth writes that he has obtained on the shores of the mere, during last year and the present spring, the following species among others : *Rybaxis sanguinea* and the *Steni*, *guttula*, *bimaculatus*, *juno*, *providus*, *buphthalmus*, *canaliculatus*, *palustris*, *flavipes*, *pallitarsis*, *nitidiusculus*, *cicindeloides* and *latifrons*. *Stenus morio* and *S. vafellus* have been recorded. The cliffs north of Hornsea may possibly yield *Nebria livida*.

**PROGRAMME OF MEETINGS, Monday :—**

|  |                             |
|--|-----------------------------|
| 5-0 p.m. prompt, Meat Tea, 1/6 each, } | } Alexandra Hotel, Hornsea. |
| 6-0 p.m. Sectional Meetings, }         |                             |
| 6-30 p.m., General Meeting, }          |                             |

Trains for Hull leave Hornsea on Whit-Monday at 5-55, 6-25, 7-40, 8-5, 9-30, and 10-10 p.m., arriving at Hull at 6-36, 6-56, 8-22, 8-44, 10-11, and 10-58 respectively.

In order that an early account of the excursion may appear in the "Naturalist," notes and reports should be forwarded before June 20th to the Secretary of the Y.N.U., the Museum, Hull.



# Yorkshire Naturalists' Union.

## President :

Dr. WHEELTON HIND, B.Sc., F.G.S., Stoke-on-Trent.

## Ex-Presidents :

Rev. Wm. FOWLER, M.A., Liversedge.  
 JOHN GILBERT BAKER, F.R.S., F.L.S., Kew.  
 Rt. Hon. LORD WALSHINGHAM, M.A., F.R.S., Thetford, Norfolk.  
 Rev. W. H. DALLINGER, LL.D., F.R.S., etc., London.  
 Sir RALPH PAYNE GALLWEY, Bart., M.B.O.U., Thirkleby Park.  
 WILFRID H. HUDLESTON, M.A., F.R.S., London.  
 HENRY EELES DRESSER, F.L.S., F.Z.S., London.  
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 GEORGE T. PORRITT, F.L.S., F.E.S., Huddersfield.  
 Prof. PERCY F. KENDALL, M.Sc., F.G.S., Leeds.  
 W. DENISON ROEBUCK, F.L.S., Leeds.  
 A. H. PAWSON, J.P., F.L.S., F.G.S., London.  
 G. W. LAMPLUGH, F.R.S., F.G.S., London.  
 W. EAGLE CLARKE, F.R.S.E., Edinburgh.  
 CHARLES CROSSLAND, F.L.S., Halifax.

## Divisional Secretaries :

H. H. CORBETT, M.R.C.S., 9 Priory Place, Doncaster.

A. WHITAKER, Worsborough Bridge, Barnsley.

## Hon. Secretary :

T. SHEPPARD, F.G.S., Municipal Museum, Hull.

## THE 210TH MEETING

WILL BE HELD AT

# HAMPOLE,

## On Thursday, July 9th, 1908.

**RAILWAY ARRANGEMENTS.**—Through return tickets at pleasure party rates will be issued at all stations on the G.C., G.N., H. & B., L. & Y., L. & N.W., Midland and N.E. Railways, which have booking arrangements for HAMPOLE, to Members and Associates of the Y.N.U., surrendering the Certificate noted below. Tickets taken on Wednesday, July 8th, will be available for return on Friday, July 10th. Where through bookings are not in operation Members may book to most convenient junction, and re-book to destination, the reduced fares being available for each stage of the journey. The following is the most convenient train service from the principal towns to Doncaster :

|              | Don.         |            | Don.          |           | Don.          |
|--------------|--------------|------------|---------------|-----------|---------------|
| Barnsley     | 9 52 - 10 30 | Penistone  | 9 14 - 10 21  | Sheffield | 9 45 - 10 21  |
| Bradford     | 9 45 - 10 57 | Pontefract | 9 35 - 10 25  | Leeds     | 10 15 - 10 57 |
| Huddersfield | 9 40 - 10 57 | Scarboro'  | 8 55 - 10 48  | York      | 10 3 - 10 48  |
| Hull         | 9 45 - 10 33 | Selby      | 10 25 - 10 48 |           |               |



**N.B.**—The Railway Booking Clerks will only grant these reduced fares to Members and Associates producing a Special Certificate signed by the Secretary of the Union. Members and Associates wishing for this Certificate must apply to Mr. Sheppard for it. At Stations on the N.E. Rly. tickets at the reduced fares will be issued on production of the signed card of membership.

**BOOKS AND MAPS.**—The whole area is included in Sheet 87 of the One Inch Ordnance Map, which may be obtained geologically coloured. For notes on the Geology and Botany see Davies and Lees' "West Yorkshire," and Lees' "Flora of the West Riding."

**HEADQUARTERS.**—The Glyn Hotel, Doncaster.

**ROUTES.**—The members will meet at Doncaster Station on the arrival of the 10-57 a.m. train from Leeds, etc., and will proceed by Motor Char-a-Banc (fare 1/- each), to Hampole. Here one of two routes may be taken. 1st—through Hampole Wood, Brodsworth, Pickburn and Adwick-le-Street. This will probably be a good ramble for Coleopterists, many of the timber feeding species being common about Hampole Wood. Bryologists also would do well on this route. The chief drawback to it is the very strict game preserving in the whole of the district traversed. 2nd—Through Hamphall Stubbs, Skelbrook, Skellow, and Adwick-le-Street. This would traverse good country for Botanists, Entomologists, and Conchologists. All parties should meet at Adwick Station in time for the 4-12 p.m. train to Doncaster.

The geological party will leave Hampole station at 11-36 a.m., by a footpath to the north, for Hampole Stubbs, will then visit the Moorhouse quarries, and proceed to Watchley Crag, whence the return will be made by Lound Hill in time for the 4-6 p.m. train from Hampole.

**PERMISSION** to visit their properties has been kindly granted by G. W. Fernandez, Esq., P. J. Neville, Esq., and C. Theobald, Esq.

**GEOLOGY.**—The Geological Section will be officially represented.

Mr. H. Culpin writes :—

Hampole is pleasantly situated in a gap in the Permian Limestone escarpment traversed by the Hampole Dike. The West Riding Junction Railway, which also runs through this gap, provides, in one of its cuttings, a fine section in contorted limestone, near a fault. Owing to faulting, the Middle Permian Marls and the Upper Permian Limestone are in close proximity here to the Lower Permian Limestone overlooking the Coal Measures. Hampole thereby offers the rare opportunity, within the bounds of a short stroll, of collecting fossils from the highest and the lowest beds of the Permian Limestone series. At Hampole Stubbs, which is a collecting ground of some repute on the north side of the gap, the limestone may be seen resting unconformably on the Coal Measures. At Moorhouse quarries on the south side of the stream, remarkably large and well preserved *Schizodus* are obtainable. The quicksand occasionally found below the limestone may be seen at The Ashes, and still better at Watchley Crag, a short distance south of Hooton Pagnell. Hooton Pagnell is charmingly placed on the well-wooded Permian escarpment, with wide views westwards over the Coal Measures. There are also fossiliferous quarries in the limestone.

**BOTANY.**—The Botanical Section will be officially represented by Mr. H. H. Corbett.

**Flowering Plants.**—Mr. Corbett writes :—The portion of the district which is on the Magnesian Limestone, and which includes cultivated fields, woods, and old quarries, supports a rich, sub-xerophilous flora, and such species as are included in the following list are likely to be met with at this time of the year.—*Arabis hirsuta* Scop., *Reseda lutea* L., *Helianthemum chamaecistus* Mill., *Cerastium semidecandrum* L., *C. arvense* L., *Sagina apetala* L., *Malva moschata* L., *Euonymus europæus* L., *Trifolium medium* L., *T. hybridum* L., *Anthyllis vulneraria* L., *Astragalus danicus* Reitz., *Geum rivale* L., *Rosa micrantha* Em., *Bryonia dioica* Jaeg., *Pimpinella major* Huds., *Galium mollugo* L., *Asperula cynanchica* L., *Scabiosa columbaria* L., *Erigeron acre* L., *Inula conyza* D.C., *Carduus nutans* L., *C. crispus* L., and hybrids of these and other species. *Picris hieracoides* L., *Lactuca muralis* Frum., *Campanula latifolia* L., *C. glomerata* L., *Blackstonia perfoliata* Huds., *Gentiana amarella* L., *Lithospermum officinale* L., *Nepeta cataria* L., *Orchis pyramidalis* L., *Ophrys apifera* Huds.

The low-lying land with its streams ditches, willow-garths and ponds, produces an entirely different flora. Here among other things may be gathered—*Ranunculus circinatus* Sheth., *Nasturtium palustre* D.C., *N. amphibium* R. Br., *Geranium pratense* L., *Hippuris vulgaris* L., *Conium maculatum* L., *Apium nodiflorum* Ruchb., *Eupatorium cannabinum* L., *Senecio erucifolius* L., *Carduus crispus* L., *Hottonia palustris* L., *Samolus valerandi* L., *Symphitum officinale* L., *Juncus obtusiflorus* Eurl., *Typha angustifolia* L., *Lemma gibba* L., &c.

**Mosses and Hepatics.**—The Yorkshire Byrological Committee will be officially represented.

Mr. W. Ingham, B.A., writes :—**MOSSSES.** Near South Elmsall Station, the typical sea-side moss, *Pottia Heimii*, grows in crevices of the wall, interesting in such an inland station. In a quarry near Ardwick-le-Street, *Barbula fallax*, var., *brevifolia* in fruit (a rare condition) is found, also *Pottia truncatula*. At Burghwallis, *Eurhynchium tenellum* and *E. confertum* grow on a hedge bank. This is a district for *Pottias* and small *Tortulas*, and a likely place for *Tortula cernua*, known only in one British habitat at Aberford.

**HEPATICS.**—*Lophozia turbinata* covers in large flat patches the sides of a large ditch at Burghwallis, and the interesting *Lophocolea heterophylla*, var. *laxior* grows on a hedge bank at the same place.

**Fungi.**—The Yorkshire Mycological Committee will be officially represented.

**VERTEBRATE ZOOLOGY.**—The Vertebrate Section will be officially represented by Mr. W. H. Parkin.

**Mammalia.**—Mr. Corbett writes :—The common species are abundant, with the exception of those that come under the class “Vermin” of the gamekeeper’s classification. Foxes are frequent in the covers, and Badgers breed in the locality.

**Birds.**—Very numerous, but like the mammals, many are persecuted as “Vermin.” Among the more interesting species likely to be seen are Nightingale, Reed Warbler, Turtle Dove, Red Shank, and Little Grebe.

**Reptiles and Amphibia.**—I know nothing of these in the immediate district to be investigated, but in the Doncaster neighbourhood are to be found, besides the common species, Common Lizard, Grass Snake, and Great Crested Newt.

Mr. Parkin writes that the most interesting birds visiting the district, in addition to those mentioned by Mr. Corbett, are :—Little Grebe, Red Legged Partridge, Tufted Duck, Shoveller, Grasshopper and Garden Warblers, Blackcap, Reed Bunting, and Long-tailed Tit.

**CONCHOLOGY.**—The Conchological Section will be officially represented by its President, Mr. H. Hutton; its Secretary, Mr. J. E. Crowther.

**Land and Freshwater Mollusca.**—Mr. W. Harrison Hutton writes :—Mr. W. Nelson collected in this district previous to the Union's visit to Askern in 1893, and a reference to his notes leads me to expect that all Conchologists will have a good time. Circular 137, Doncaster, furnishes a good list of species for that place (Doncaster) and district; also Circular 196, Askern, July 12, 1906, which locality is near Hampole.

Mr. Corbett writes :—The numerous quarries in the Magnesian Limestone provide good hunting grounds for terrestrial mollusca. The following species have been found by the writer in the district :—*Limax maximus* L., *Agriolimax agrestis* L., *Vitina pellucida* Müll., *Vitrea crystallina* Müll., *V. cellaria* Müll., *V. rogersi* B.B.W., *V. alliaria* Müller, *V. nitidula* Drap., *V. pura* Alder., *Euconulus fulvus* Müll., *Avion ater* L., *Pyramidula rotundata* Müll. v., *pyramidalis* Jeff., *Helicella virgata* Da Costa., *H. caperata* Mont., *H. cantiana* Mont., *Hygromia hispida* L., *Acanthinula aculeata* Müll., *Vallonia pulchella* Müll., *V. costata* Müll., *Helix aspersa* Mull., *H. nemoralis* L., *H. hortensis* Mull., *Ena obscura* Mull., *Cochlicopa lubrica* Mull., *Caeciloides acicula* Mull., *Jamnia cylindracea* Da Costa., *Vestigo pygmaea* Drap., *Clausilia bidentata* Ström., *Carychium minimum* Mull.

**ENTOMOLOGY.**—The Entomological Section will be officially represented.

**Coleoptera.**—The Yorkshire Coleoptera Committee will be officially represented by Mr. H. H. Corbett.

**PROGRAMME OF MEETINGS :—**

|  |                    |
|--|--------------------|
| 4-45 p.m. prompt, Meat Tea, 1/6 each, }<br>5-30 p.m., Sectional Meetings, }<br>5-45 p.m., General Meeting, } | At the Glyn Hotel. |
|--|--------------------|

Trains for all parts of Yorkshire from Doncaster are frequent.

In order that an early account of the excursion may appear in the "Naturalist," notes and reports should be forwarded before July 18th to the Secretary of the Y.N.U., the Museum, Hull.



# Yorkshire Naturalists' Union.

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## President :

Dr. WHEELTON HIND, B.Sc., F.G.S., Stoke-on-Trent.

## Ex-Présidents :

Rev. Wm. FOWLER, M.A., Liversedge.  
JOHN GILBERT BAKER, F.R.S., F.L.S., Kew.  
Rt. Hon. LORD WALSHINGHAM, M.A., F.R.S., Thetford, Norfolk.  
Rev. W. H. DALLINGER, LL.D., F.R.S., etc., London.  
Sir RALPH PAYNE GALLWEY, Bart., M.B.O.U., Thirkleby Park.  
WILFRID H. HUDLESTON, M.A., F.R.S., London.  
HENRY EELES DRESSER, F.L.S., F.Z.S., London.  
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ROBERT BRAITHWAITE, M.D., F.L.S., London.  
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GEORGE T. PORRITT, F.L.S., F.E.S., Huddersfield.  
Prof. PERCY F. KENDALL, M.Sc., F.G.S., Leeds.  
W. DENISON ROEBUCK, F.L.S., Leeds.  
A. H. PAWSON, J.P., F.L.S., F.G.S., London.  
G. W. LAMPLUGH, F.R.S., F.G.S., London.  
W. EAGLE CLARKE, F.R.S.E., Edinburgh.  
CHARLES CROSSLAND, F.L.S., Halifax.

## Divisional Secretary :

J. J. BURTON, Nunthorpe, R.S.O., Yorkshire.

## Hon. Secretary :

T. SHEPPARD, F.G.S., F.S.A. Scot., Municipal Museums, Hull.

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## THE 211TH MEETING

WILL BE HELD AT

# OSMOTHERLEY,

ON

Bank Holiday Week-end, Aug. 1st to 3rd,

1908.

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**RAILWAY ARRANGEMENTS.**—Through return tickets at pleasure party rates will be issued at all stations on the G.C., G.N., H. & B., L. & Y., L. & N.W., Midland and N.E. Railways, which have booking arrangements for NORTHALLERTON, to Members and Associates of the Y.N.U., surrendering the Certificate noted below. Tickets taken on Friday, July 31st, will be available for return on Tuesday, August 4th. Where through bookings are not in operation Members may book to most convenient junction, and re-book to destination, the reduced fares being available for each stage of the journey.



N.B.—The Railway Booking Clerks will only grant these reduced fares to Members and Associates producing a Special Certificate signed by the Secretary of the Union. Members and Associates wishing for this Certificate must apply to Mr. Sheppard for it. At Stations on the N.E. Rly. and H. & B. Rly. tickets at the reduced fares will be issued on production of the signed card of membership.

**BOOKS AND MAPS.**—The whole area is included in Sheets 42 of the One-Inch Ordnance Map, which may be obtained geologically coloured. See the Geological Survey Memoirs; "The Yorkshire Lias," by Tate and Blake; "North Yorkshire," by J. G. Baker; "Fungus Flora of Yorkshire," by C. Crossland; West's "Algæ Flora"; Nelson's "Birds of Yorkshire."

**THE DISTRICT.**—The neighbourhood of Osmotherley is very interesting to the naturalist, as it provides low lying valley lands with steep escarpments, often delightfully wooded and terminating in a high moorland area, reaching to about 1,300 feet above the sea level. The area does not seem to have been much worked, and with such diversified characteristics, offers excellent opportunities for investigation by almost all sections of the Union. The far famed Mount Grace Priory lies close by. The woods and surroundings are picturesque and the view over the Vale of York from the long line of escarpment is one of the finest in the county. The tableland rests on a foundation of Lower Lias, and is capped by the Coralline rocks of the Oolitic system.

**HEADQUARTERS.**—The Golden Lion Hotel, Northallerton.

**ACCOMMODATION.**—As all the rooms in the Inns in the neighbourhood of Osmotherley have been engaged for a long time for Bank Holiday and other visitors, it has been found necessary to fix the Headquarters at the Golden Lion Hotel, Northallerton. Tariff—Bed, Breakfast, and Dinner, 8/- per day. Proprietress, Mrs. E. Bonnett.

Accommodation can also be obtained at Bourne's Railway Hotel. Proprietor, Mr. A. Bourne. Terms the same as at the Golden Lion. Members must please apply direct for rooms.

**EVENING MEETINGS.**—On the Saturday evening, Mr. F. Elgee will read a paper on "The Problems of the Fauna of N.E. Yorkshire."

**ROUTES.**—**Saturday.** Drive from Northallerton to near Thimbleby Lodge. The Geologists will examine the strata exposed up-stream on the Banks of Codbeck, following the general course of the stream until it crosses the road near Moor House, visiting the old alum quarries on the south side, and the quarries in the Grey Limestone near Moor House. Follow the moor track south over Black Hambleton and Whitestone Scar, past Lime Kiln House to Kepwick Quarries. Thence to Nether Silton, along the escarpment if time will allow, or by road direct if time is pressing. Other sections will examine the plantations along the face of the escarpment from Thimbleby Lodge to Nether Silton. Traps will meet the party at Nether Silton and drive them back to Northallerton.

**Monday.**—Drive to Osmotherley. Geologists will walk to Slapstones (call at Chequers Inn, where the peat fire is said to have been burning continuously for over 100 years). Follow generally the road northwards through the double Fault of Scarth Nick, and then eastward along Lime Kiln Bank and the escarpment facing Scugdale as far as time will permit. Return to Osmotherley.

**Other Sections.**—Walk by field road from Osmotherley to Mount Grace Priory and examine Arncliffe Woods. Return to Osmotherley. All drive back to Northallerton.

**Leaders.**—Dr. W. G. Smith, and Messrs. T. A. Lofthouse and F. Elgee.

**PERMISSION** to visit their properties has been kindly granted by Sir Hugh Bell, Bart. ; the Earl of Faversham, and J. S. Barwick, Esq.

**GEOLOGY.**—The Geological Section will be officially represented.

Mr. E. Hawkesworth writes :—The district appears to be an attractive one to the geologist. The predominating feature is the escarpment formed by the face of the Cleveland Hills to the Vale of York, which gives an almost complete section of the Jurassic rocks, ranging from the Lower Lias to the upper beds of the Middle Oolites. The limits of a paragraph will not admit of a detailed account of such a number and variety of beds as are represented. Most of the published information is rather old, and now that jet working and the manufacture of alum are extinct, the rocks are not of great economic importance, so that new artificial exposures are rare. However, in the remnants of the old workings, the natural exposures in the main escarpment, and in the sides of the gullies, many opportunities will be afforded for the examination of the rocks, and their fossil contents.

Immediately north-east of Osmotherley is a series of six north and south faults. One of these, with a maximum displacement of probably 200 feet, runs through Scarth Nick, which is a good example of a fault-valley, and the effects of the fault are here clearly discernable.

To the student of Glacial Geology, the district affords much of interest. Drift deposits occur up to about 400 feet, O. D. on the main escarpment, but in Scugdale up to over 700 feet. Scugdale is a good example of the site of an old glacier-lake. To quote from Professor P. F. Kendall's paper on "Glacier-Lakes in the Cleveland Hills" (Q.J.G.S., 1902, p. 513), to which reference is recommended—"At the western extremity of the escarpment there occurs the only example of a valley opening to the northward. This valley, Scugdale, is hemmed in by lofty ridges rising to upwards of 1,000 feet, except at one point, where a gap occurs in Stony Ridge, on the west side of the valley. Here a narrow, sharply-cut notch breaks through the 1,000 ft. contour, and forms the intake of a deep channel, Holy-Well Gill, which has all the characteristics of a lake-overflow."

**Very useful work can be done in noting the contents and altitude of the Drift deposits in the escarpment, from Scarth Nick southward.**

Mr. Burton writes.—The exposures of the Lias are not very well seen, as much of the area is drift covered, and the workings have generally been so long abandoned that they do not now present fresh faces. Still the sandy series of the middle Lias may be seen at Nun House, about half a mile north of Over Silton, with the *Avicula* seam of Ironstone lying above them ; and the same beds may be traced for a considerable distance southward along the face of the escarpment until they are wholly hidden by drift. The main seam of Ironstone greatly attenuated, is exposed in Codbeck, close to Thimbleby Lodge, and here again may be noted, as at Nun House, the occurrence of the Sandy Series of the Middle Lias. The upper Lias in the neighbourhood of Osmotherley may be traced at various points, but its thickness here as compared with coast sections is greatly reduced. The Alum shale has been worked in Oak Dale, less than a mile east from where the road crosses the Codbeck close to Thimbleby Lodge, and here the Dogger, only about 1½ to 2 feet thick, is well seen, but is absent or only faintly indicated in other places in the neighbourhood. In some places the Dogger has been burnt for Lime, as in Lime Kiln Wood. In others it is too ferruginous to be used for this purpose. Lime Kiln Wood is the escarpment to the right of the road going down Scarth Nick, and it may be well to visit it as the faults at Scarth Nick expose a considerable section, and the marls and shales in Lime Kiln bank are very fossiliferous. The Ellerbeck beds of the Lower Oolites are not very well seen in the neighbourhood, but the Grey Limestone Series are seen at the head of Oak Dale near Thimbleby, where they are found to be very fossiliferous. At Kewick the Kelloways Rock, and Calcareous Grit are exposed, and in the neighbourhood the Oolite coal seams have been worked.

**BOTANY.**—The Botanical Section will be officially represented by the President, Dr. W. G. Smith.

**BOTANICAL SURVEY.**—Dr. W. G. Smith writes :—The district possesses unusual interest for this work, because the high escarpments and steep valley slopes produce soil conditions favourable to distinct types of vegetation. Most of the woods are planted, but on Black Hambleton escarpment, and in Scugdale, there are several scrubs which are probably natural, and, therefore, ought to be carefully examined. On the moorland, attention should be directed to the upper limit of Bracken, and the occurrence of Cotton grass ; the latter appears on the summit of Black Hambleton and in places on the lower moors between Scugdale and Snilesworth.

The excursions for Botanical Survey will extend over three days.

**Mosses and Hepatics.**—The Yorkshire Byrological Committee will be officially represented by W. Ingham, B.A.

Mr. Ingham writes :—There are no records for the immediate district, but several very rare mosses are on record for Ingleby Greenhow, and it is probable that these will extend to the Osmotherley District. One moss in particular, *Oreas Mielihoferi* var. *elongata*, was found at an elevation of 1,000 feet at the former place—the only English record, and it would be interesting to find it at Osmotherly, a probable station for it.

**Fungi.**—The Yorkshire Mycological Committee will be officially represented by Mr. T. Gibbs.

**VERTEBRATE ZOOLOGY.**—The Vertebrate Section will be officially represented. Little work appears to have been done in this district.

**CONCHOLOGY.**—The Conchological Section will be officially represented.

**ENTOMOLOGY.**—The Entomological Section will be officially represented by Mr. T. A. Lofthouse.

**Coleoptera.**—The Yorkshire Coleoptera Committee will be officially represented. There appear to be no records for this district.

**PROGRAMME OF MEETINGS.**—

|        |   |  |
|--------|---|--|
| Monday | { 4-30 p.m. prompt, Meat Tea, 1s 6d each<br>5-10 p.m., Sectional Meetings<br>5-20 p.m., General Meeting | } Golden Lion Hotel,<br>Northallerton. |
|--------|---|--|

In order that an early account of the excursion may appear in the "Naturalist," notes and reports should be forwarded before August 15th to the Secretary of the Y.N.U., the Museum, Hull.



# Yorkshire Naturalists' Union.

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## President :

Dr. WHEELTON HIND, B.Sc., F.G.S., Stoke-on-Trent.

## Ex-Presidents :

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JOHN GILBERT BAKER, F.R.S., F.L.S., Kew.  
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## Divisional Secretary :

W. ROBINSON, Greenbank, Sedbergh, Yorks.

## Hon. Secretary :

T. SHEPPARD, F.G.S., F.S.A. Scot., Municipal Museums, Hull.

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## THE 212TH MEETING

WILL BE HELD AT

# CLAPHAM

ON

## SEPTEMBER 5th to 7th.

1908.

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**RAILWAY ARRANGEMENTS.**—Through return tickets at pleasure party rates will be issued at all stations on the G.C., G.N., H. & B., L. & Y., L. & N.W., Midland and N.E. Railways, which have booking arrangements for CLAPHAM, to Members and Associates of the Y.N.U., surrendering the Certificate noted below. Tickets taken on Friday, Sept. 4th, will be available for return on Tuesday, Sept. 8th. Where through bookings are not in operation Members may book to most convenient junction, and re-book to destination, the reduced fares being available for each stage of the journey.

N.B.—The Railway Booking Clerks will only grant these reduced fares to Members and Associates producing a Special Certificate signed by the Secretary of the Union. Members and Associates wishing for this Certificate must apply to Mr. Sheppard for it. At Stations on the N.E. Rly. and H. & B. Rly. tickets at the reduced fares will be issued on production of the signed card of membership.



**BOOKS AND MAPS.**—The whole area is included in Sheets 97 S. W., Ingleborough Hill, and 92 N. W., Clapham and Bowland Knotts, of the One-Inch Ordnance Map, which may be obtained geologically coloured. See the Geological Survey Memoir of Ingleborough; "North Yorkshire," by J. G. Baker; "Fungus Flora of Yorkshire," by C. Crossland; West's "Algæ Flora"; Nelson's "Birds of Yorkshire;" and Prof. Hughes' papers in "The Yorkshire Geological Society's Proceedings, Vol. xiv., pts. 2 and 3; Vol. xv. pt. 3; Vol. xvi. pts. 1 and 2. Reference may also be made to Speight's "Craven and North-West Yorkshire Higblands," 1892; Davis and Lees' "West Yorkshire," 1878; Balderston's "Ingleton: Bygone and Present," n.d.; George H. Browns' "On Foot round Settle," (2/-) 1896; Dr. W. Marshall Watts' "School flora," 3 editions, 1878, 1879, and 1896; Clapham Circular (136), 14th May, 1898. Copies of the circular for the 136th Meeting can be obtained from the Secretary. Price 2d.

**HEADQUARTERS.**—Will be at the New Inn, Clapham, *via* Lancaster.  
**TERMS.**—Saturday evening to Monday morning, bed, board and attendance, 15/-. Those requiring accommodation must communicate with Mr. Harry Boys, the proprietor, at the earliest possible moment.

**ROUTES.**—**Saturday.**—The general body of naturalists on arrival of the 9-18 and 10-25 a.m. trains will be conducted by the representatives of sections and by members of the Bradford Naturalists' Society to suitable localities. Geologists, under the leadership of Messrs. W. Robinson and E. Hawkesworth, will start from the New Inn immediately on arrival of members there from the 9-18 a.m. train, and proceed, *via* Thwaite Lane, to Norber; then examine the section of Bala Beds in Crummack Lane; proceed to traverse the section exposed in Austwick Beck, near Wharfe; and, if time permit, walk up to the Beck Head, where the Basement Beds of both the Silurian and Carboniferous formations may be seen.

Word will be left at the New Inn as to where members arriving later may be likely to come across the parties.

**Routes for the following days** will be arranged on Saturday evening.

**PERMISSION** to visit their properties has been kindly granted by J. A. Farrer, Esq., the Rev. A. Ingliby, and the Rev. R. P. Stedman,

**GEOLOGY.**—The Geological Section will be officially represented by its President, Mr. Cosmo Johns, and Mr. E. Hawkesworth, one of its Secretaries.

Mr. W. Robinson writes:—The country under investigation, including Horton-in-Ribblesdale, visited last year, may be said, in a geological point of view, to lie on the margin or rim of the Lake District group of rocks, as all the strata below the Carboniferous Limestone, both there and here, were deposited in a continuous sea area which at a remote period spread over the Lake Country, the Isle of Man, and North Wales.

Although the period in question (the Ordovician and Silurian) was characterised at first by great volcanic activity, it does not appear that any of the great lava flows reached quite as far as here; and it is not improbable that the ashy grits and slates which lie above the Coniston limestone beds are the produce of water-borne volcanic material.

As the sea floor continued to subside, the Austwick grits, the Horton flags, and the Studfold sandstones were laid down in succession in water which had become more tranquil, and with land not very far away, as would appear from their more or less sandy and homogeneous character.

The cleavage and metamorphism seen in some of the beds, noticeably in those of Chapel-le-Dale and the folding and plication of the rocks, imply that higher beds, possibly the whole of the Ludlow group up to the red beds, were deposited here as in North Wales prior to their general upheaval.

Denudation would follow on a vast scale during the immeasurably long interval of time which then elapsed before the approaching Carboniferous sea eroded and levelled the residue, and so formed a plain of marine denudation.

Prof. Hughes, in one of his learned and interesting papers in the Yorkshire Geological Society's Proceedings, says that from the top of Ingleborough there may be discerned the relics of two other great sea-plains or plateaux of marine denudation, namely: one, of which the top of Ingleborough forms a part, at an approximate elevation of about 2,000 feet; the other comprising the Lake District, the hills of which rise to about 3,000 feet; and, he suggestively enquires, "What basement bed derives its pebbles from the shore of the sea that arrested denudation at the

2,000 foot plain of Yorkshire, and what formation was laid down in the sea which crept across the 3,000 feet plain of Cumberland? What way did that sea advance, from North or South or East or West?" A like question may be appropriately put as to the products of denudation of the upheaved Silurian valleys prior to the deposition of the Mountain Limestone and its basement conglomerate?

Consequent on the folding of the rocks the basement bed of the Silurian and that of the Carboniferous may be seen in close proximity at Austwick Beck Head.

Phases of denudation in active progress may be studied in the various valleys—from King's Dale, which has not yet eaten through the scar limestone, to Ribblesdale, where the Silurian rocks are already laid bare.

The perched rocks on the limestone at Norber are one of the most interesting features of the glacial epoch. Possibly the shell marl near Southwaite was deposited in more recent times in a hollow scooped out during the same period.

Mr. E. Hawkesworth writes:—This excursion will afford an opportunity to the geologists of continuing the study of the pre-Carboniferous rocks of Yorkshire, supplementing the observations made in the two previous years of those rocks as they occur in the Ingleton and Horton areas respectively. Time will only allow a detailed examination of one or two critical sections, but will be sufficient for those present to see the salient features of the geology of the district, which, though limited in area, presents a variety of interesting problems. The very oldest rocks of the two areas previously visited are not seen in the Crummack district. On the other hand, the Bala Beds (Coniston Limestone series) are well represented, and in some of the sections to be visited, their characteristic fossils should be found.

Geologists owe a deep debt of gratitude to Prof. T. Mc. K. Hughes for his lucid descriptions and illustrations of the district, and those intending to be present are urged to read them up. (*See under Books and Maps*). He classifies the rocks as follows:—

- A. Silurian—
  - a. Grits of Rough Lands,
  - b. Studfold Sandstone.
  - c. Horton Flags (*ca.* 2000 ft.)
  - d. Austwick Grit (*ca.* 1000 ft.)
  - e. Austwick Flags (*ca.* 400 ft.)
  - f. Pale Slates (and Red Shale).
  - g. Graptolithic Mudstone (with Spengill Limestone, and zone of *Phacops elegans*.)
  - h. Conglomerate or Calcareous Grit. (Basement Bed of Silurian).
- B. Ordovician—Bala Beds.

All these are highly contorted, and were subject to enormous denudation before the Carboniferous rocks were deposited upon their upturned edges. The differences in level of the pre-Carboniferous floor will be noted. In Crummack Dale the hard Silurian grits attain nearly 1200 feet above sea level, whilst south of Norber the softer Bala shales fall to 700 feet.

According to Prof. Hughes, an area of about two square miles in the neighbourhood of Austwick, Crummack, Wharfe, and Wood End provides the best sections of the upper part of the Bala Beds in the district. Special attention will be devoted to these, but, in passing, the Silurian succession may be noted, and, if possible, the Basal beds of the Carboniferous system will be examined. There is a most instructive section of these under Norber Brow, showing, laid upon the older rocks, a considerable thickness of conglomerate, of varying texture, containing fossils.

Geologists will scarcely care to leave the district without seeing the famous group of erratic blocks on Norber, which can be traced to their source in the outcrop of Austwick Grits, in Crummack Dale.

In addition to any more detailed study of these items of intense interest that may be found advisable, those spending the week-end in the district will find ample employment in observing the effects of the Craven Faults, and collecting fossils from the Carboniferous Limestone, whilst a visit to the Ingleborough Cave may be an attraction to some.

NOTE.—Mr. Johns will explain the position of the zoning of the Carboniferous rocks, and Mr. Hawkesworth and Mr. Robinson will perform a like duty respecting the earlier strata.

**Mosses and Hepatics.**—The Yorkshire Bryological Committee will be officially represented by the Chairman, Mr. W. Ingham, B.A.

Mr. Ingham writes:—Clapham is an excellent centre for the bryologist. There is an extensive list of records for the immediate district, of which the following are the most interesting:

**MOSES.**—At and near Clapham, *Campylopus fragilis*, *Zygodon gracilis* (a very rare moss), *Cylindrothecium concinnum*, *Uloa phyllantha*, *Orthotrichum stramineum*, *Funaria calcarea*, *Bryum pendulum*, *Hypnum falcatum*, var. *virescens*, and *Hypnum scorpioides*. In Clapdale are *Uloa crispa*, *Aulacomnium androgynum*, and *Brachythecium plumosum*. At Austwick are *Dicranella cerviculata*, *Rhacomitrium protensum* and *heterostichum*, *Hedwigia ciliata*, *Pterogonium gracile*, *Pottia bryoides*, *Barbula cylindrica*, *Tortula mutica*, *Spiachnum ampullaceum*, *Bryum alpinum*, *Hypnum giganteum*, and *Hylocomium rugosum*.

**HEPATICS.**—At Clapham and the Cave are *Blasia pusilla*, *Nardia obovata*, *Aplozia pumila*, and *A. cordifolia*, *Lophozia Mülleri* and *L. turbinata*, *Madotheca rivularis*, *Scapania aequiloba*, and *Lejeunea calcarea*. In Clapdale are *Reboulia hemisphaerica*, *Metzgeria pubescens*, *Blepharostoma trichophylla*, and *Trichocolea tomentella*. *Riccia Lescuriana* occurs on the dry limestone scars of Ingleboro', the only Yorkshire record, and may extend nearer to Clapham.

**VERTEBRATE ZOOLOGY.**—The Vertebrate Section will be officially represented by Mr. R. Fortune, F.Z.S., and Mr. W. H. Parkin.

**Mammalia.**—Mr. Fortune writes:—Most of the common species of mammalia are to be met with, but information is desired particularly with regard to the Bats, Mice, and Voles. Members should pay particular attention to these smaller species.

**Birds.**—Mr. Fortune writes:—The excursion taking place rather late in the year, it will be found that most of the moorland birds have departed for the sea coast, and many of the warblers and smaller migrants will have left the valleys, and those that are left will be very silent. Moorland birds are prominent in the district. The Peregrine, Raven, Merlin, nest, or endeavour to nest, in the neighbourhood almost every year. The common Buzzard has ceased to do so, but individuals, probably birds of the year, may be seen. The Twite may be looked for, and also the Short-eared Owl. The Long-eared, Tawny, and Barn Owls occur regularly. The list of birds observed is too long to insert, but the species usually found in the dale and moorland country are to be met with.

Mr. Parkin writes:—The Sandpiper occurs in large numbers, together with Grey, Pied, and Yellow Wagtails, and Dipper; and at Austwick Moss, a two mile walk from the village, occur Mallard, Teal, Heron, Redshank, Snipe, Curlew, Waterhen, Coot, Reed Bunting, Grasshopper Warbler, Long-eared Owl, Whinchat, Wheatear, etc.

**Reptiles and Amphibia.**—Mr. Fortune writes:—Information is desired about the Newts. The Common Lizard, Slow Worm, Viper (very rare), Frog, and Toad have been met with.

**Fishes.**—Mr. Fortune writes:—Trout are abundant, Eels, Minnows, River Bullhead, and Loach are also to be found in the streams, and Perch and Tench in ponds in the neighbourhood.

**Coleoptera.**—The Yorkshire Coleoptera Committee will be officially represented.

Mr. E. G. Bayford writes:—The district under investigation is one extremely favourable to coleopterists, but it has not as yet been systematically worked. Dr. G. W. Chaster has recorded several *Staphylinid* (e.g. *Autalia rivularis*, Gr. *Bolitochara lucida* Gr. and *B. obliqua* Er.) and *Pselaphids* (e.g. *Bythinus validus*, Aube *B. securiger*, Reich, *B. burrelli*, Denny) from Ingleton, some of these being the only records for the county. It is interesting to note that Ingleborough is one of the three localities in Yorkshire where *Carabus glabratus* Payk has been found, and for many years was the only one, Prof. Hooker having taken it there in the first quarter of last century.

#### PROGRAMME OF MEETINGS:—

|           |   |                               |
|-----------|---|-------------------------------|
| Saturday, | { 5-6 p.m. prompt, Meat Tea, 1/9 each } | } At the New Inn,<br>Clapham. |
| Sept. 5th | { 5-45 p.m., Sectional Meetings }       |                               |
|           | { 6-0 p.m., General Meetings }          |                               |

Train for Leeds leaves 7-14 p.m.

Train for Bradford leaves 7-25 p.m.

In order that an early account of the excursion may appear in the "Naturalist," notes and reports should be forwarded before September 20th to the Secretary of the Y.N.U., the Museum, Hull.



# Yorkshire Naturalists' Union.

President :

Dr. WHEELTON HIND, B.Sc., F.G.S., Stoke-on-Trent.

Hon. Secretary :

T. SHEPPARD, F.G.S., Municipal Museums, Hull.

## THE 213TH MEETING

WILL BE HELD AT

# SANDSEND

For a Fungus Foray

IN MULGRAVE WOODS,

From Saturday, Sept. 19th, to Thursday, Sept. 24th, 1908.

Chairman of Mycological Committee :

GEORGE MASSEE, F.L.S., V.M.H., of the Royal Herbarium, Kew.

Hon. Sec. Mycological Committee :

CHAS. CROSSLAND, F.L.S., 4 Coleridge Street, Halifax.

**RAILWAY ARRANGEMENTS.**—Through return tickets at pleasure party rates will be issued at all stations on the G.C., G.N., H. & B., L. & Y., L. & N.W., Midland, and N.E. Railways. which have booking arrangements for SANDSEND to Members and Associates of the Y.N.U., surrendering the Certificate noted below. Tickets taken on Friday, September 18th, will be available for return on Friday, September 25th. Where through bookings are not in operation Members may book to most convenient junction, and re-book to destination, the reduced fare being available for each stage of the journey.

**N.B.**—The Railway Booking Clerks will only grant these reduced fares to Members and Associates producing a Special Certificate signed by the Secretary of the Union. Members and Associates wishing for this Certificate must apply to Mr. Sheppard for it. At Stations on the N.E. Rly. tickets at the reduced fares will be issued on production of the signed card of membership.

**PERMISSION** to visit the fine Mulgrave Woods has been kindly granted by the Rev. the Marquis of Normandy.

**HEADQUARTERS** will be at Melrose House, Sandsend. Application for accommodation must be made to Mr. C. Crossland.

**ROUTES.**—These will be arranged each morning. Members will assemble at Headquarters on the Saturday afternoon.

Parts of each of the first three evenings will be given to Mycological Papers and discussion. Mr. Massee will deal with "Economic Fungi"; Mr. Wager with "Spore Formation in the Agaricinæ"; Mr. Hawley with "New Fungi found in Lincolnshire," also "Fungi found on a dead thistle at Brafferton"; and Mr. Johnson with "Fungi which have developed on material taken from polluted West Riding streams."

The usual Business Meeting of the Mycological Committee will be held on the Wednesday evening.



THE UNIVERSITY OF CHICAGO

THE GREAT WESTERN

# SANDS

BY A. B. SANDS  
IN ASSOCIATION WITH THE  
PUBLISHERS OF THE GREAT WESTERN

THE GREAT WESTERN  
PUBLISHED BY THE  
GREAT WESTERN PUBLISHING CO.  
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1880

# Yorkshire Naturalists' Union.

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**President :**

Dr. WHEELTON HIND, B.Sc., F.G.S., Stoke-on-Trent.

**President-Elect :**

W. H. ST. QUINTIN, J.P., M.B.O.U., Scampston, York.

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Rt. Hon. LORD WALSHINGHAM, M.A., F.R.S., Thetford, Norfolk.  
Rev. W. H. DALLINGER, LL.D., F.R.S., etc., London.  
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WILFRID H. HUDLESTON, M.A., F.R.S., London.  
HENRY EELES DRESSER, F.L.S., F.Z.S., London.  
R. H. TIDDEMAN, M.A., F.G.S., Oxford.  
ROBERT BRAITHWAITE, M.D., F.L.S., London.  
Prof. W. BOYD DAWKINS, M.A., F.R.S., Manchester.  
WILLIAM WEST, F.L.S., Bradford.  
GEORGE T. PORRITT, F.L.S., F.E.S., Huddersfield.  
Prof. PERCY F. KENDALL, M.Sc., F.G.S., Leeds.  
W. DENISON ROEBUCK, F.L.S., Leeds.  
A. H. PAWSON, J.P., F.L.S., F.G.S., London.  
G. W. LAMPLUGH, F.R.S., F.G.S., London.  
W. EAGLE CLARKE, F.R.S.E., Edinburgh.  
CHARLES CROSSLAND, F.L.S., Halifax.

**Divisional Secretary :**

H. H. CORBETT, Priory Place, Doncaster.

**Hon. Secretary :**

T. SHEPPARD, F.G.S., F.S.A. Scot., Municipal Museums, Hull.

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## THE 214TH MEETING

AND

### 47th ANNUAL MEETING,

WILL BE HELD AT

THE MANSION HOUSE,

## DONCASTER,

(Preceded by an EXCURSION to CUSWORTH),

ON

**Thursday, Dec. 10th, 1908.**

**RAILWAY ARRANGEMENTS.**—Through return tickets at pleasure party rates will be issued at all stations on the G.C., G.N., H. & B., L. & Y., L. & N.W., Midland and N.E. Railways, which have booking arrangements for DONCASTER, to Members and Associates of the Y.N.U., surrendering the Certificate noted below. The Tickets will be issued on Wednesday, the 9th December, and will be available for returning up to and including the 11th December, 1908. Where through bookings are not in operation Members may book to most convenient junction, and re-book to destination, the reduced fares being available for each stage of the journey.

N.B.—The Railway Booking Clerks will only grant these reduced fares to Members and Associates producing a Special Certificate signed by the Secretary of the Union. Members and Associates wishing for this Certificate must apply to Mr. Sheppard for it. At Stations on the N.E. Rly. and H. & B. Rly. tickets at the reduced fares will be issued on production of the signed card of membership.

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## PROGRAMME.

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### 11=0 a.m.—Excursion to Cusworth Park.

By taking the first turn to the left, after crossing the river Don by Marshgate Bridge, and then taking the first footpath to the right, Cusworth Park will be reached by a walk of about a mile and a half. Here are numerous ponds, frequented by waterfowl and very rich in microscopic life. By keeping to the left after passing the keeper's house, the saw mills may be seen. Here is abundant material for Mycologists, Bryologists, Coleopterists, and Conchologists. By following the footpath through the Park, with the Hall and ponds on the right, and then turning to the right in the plantation that borders the Park, Geologists may see a fault in the Permian Rocks, bringing the lower and upper limestones together; and Archeologists may visit a British Camp,

Members arriving later can easily follow the directions as above, and meet the rest of the party.

Permission to investigate Cusworth Park has been kindly granted by Lady Isabella Batty-Wrightson.

Members of the local society will act as leaders.

### 12=30 to 2=0 p.m.—Luncheon

To be obtained either at the Glyn Hotel or Mr. Oliver's Restaurant.

### 3=0 p.m.—The 47th Annual Meeting will be held.

### 3=0 p.m.—Sectional Meetings

(which all members and associates are entitled to attend) will be held for the election of Officers of Sections, and to receive the Annual Reports from their Secretaries.

### 3=30 p.m.—The General Committee

(each member of which receives a special summons with this circular) will meet to consider the Annual Report, to elect Officers, and to arrange the Excursion Programme for 1909.

### 5=15 p.m.—Meat Tea at the Glyn Hotel, at 1/6 each.

### 6=15 p.m.—The General Meeting

will be held at the Mansion House. The Chair will be taken by the President of the Union, supported by prominent members. After the reading of the Annual Report and the announcement of the Excursion Programme for 1909

### 6=45 p.m.—The Presidential Address

will be delivered by Dr. Wheelton Hind, B.Sc., F.G.S. Subject :—“On the Present Condition of the Geology of the Carboniferous Rocks of Great Britain.”

### 7=45 p.m. to 10=30 p.m.—Conversazione.

There will be an exhibition of Microscopic, Geological, Botanical, Zoological, and other specimens.

Members of the Union who are willing to lend microscopes are asked to communicate at once with Mr. Stiles, 2 French Gate, Doncaster.

Admission by Members' or Associates' Cards.

Light Refreshments will be supplied during the evening.

### Cards of Membership.

The production of these is absolutely necessary for the obtaining of N. E. railway tickets at reduced fares, and for admission to the various meetings.

Members who have lost or mislaid their cards may have others on application to the Secretary, enclosing a stamped addressed envelope.

Associates may obtain theirs through the Secretary of their own local Society.

### Railway Time=Table.

Trains leave Doncaster for :—

|                             |   |                             |                    |
|-----------------------------|---|-----------------------------|--------------------|
| North<br>Eastern<br>Railway | { | Darlington and Scarborough, | 9-35 p.m.          |
|                             |   | Hull . . . . .              | 8-55 and 9-45 p.m. |
|                             |   | York . . . . .              | 9-7 and 9-35 p.m.  |
|                             |   | Leeds . . . . .             | 8-57 and 9-30 p.m. |
|                             |   | Bradford . . . . .          | 8-51 and 9-30 p.m. |
|                             |   | Hebden Bridge . . . . .     |                    |

### Election of Additional Members of General Committee.

Voting papers are not sent out this year, but members may vote by postcard addressed to the Secretary, making their choice from the List of Members.

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**NEW MEMBERS.**—A special effort is being made to get a good list of new members for the Doncaster Meeting. Towards this the Hon Secretary would be glad to receive the form on the back hereof duly filled in. The Subscription is 10/6 per annum, and members receive the *Naturalist*, *Transactions*, etc., free. The new volume of the *Naturalist*, commences on January 1st.



This form, when filled up and signed, should be sent to the Secretary of the Union (Mr. T. SHEPPARD, F.G.S., The Museum, Hull).

The subscription of 10/6 entitles the members to receive the Union's monthly magazine, "The Naturalist," free, as well as the "Transactions."

Persons related to and resident in the family of a member are admitted as 5/- members, to enable them to attend excursions, but do not receive the publications.

Qualification for Life Membership :—A Donation of 7 Guineas.

# Yorkshire Naturalists' Union.

.....190

[Signature and Titles].

.....[Address].

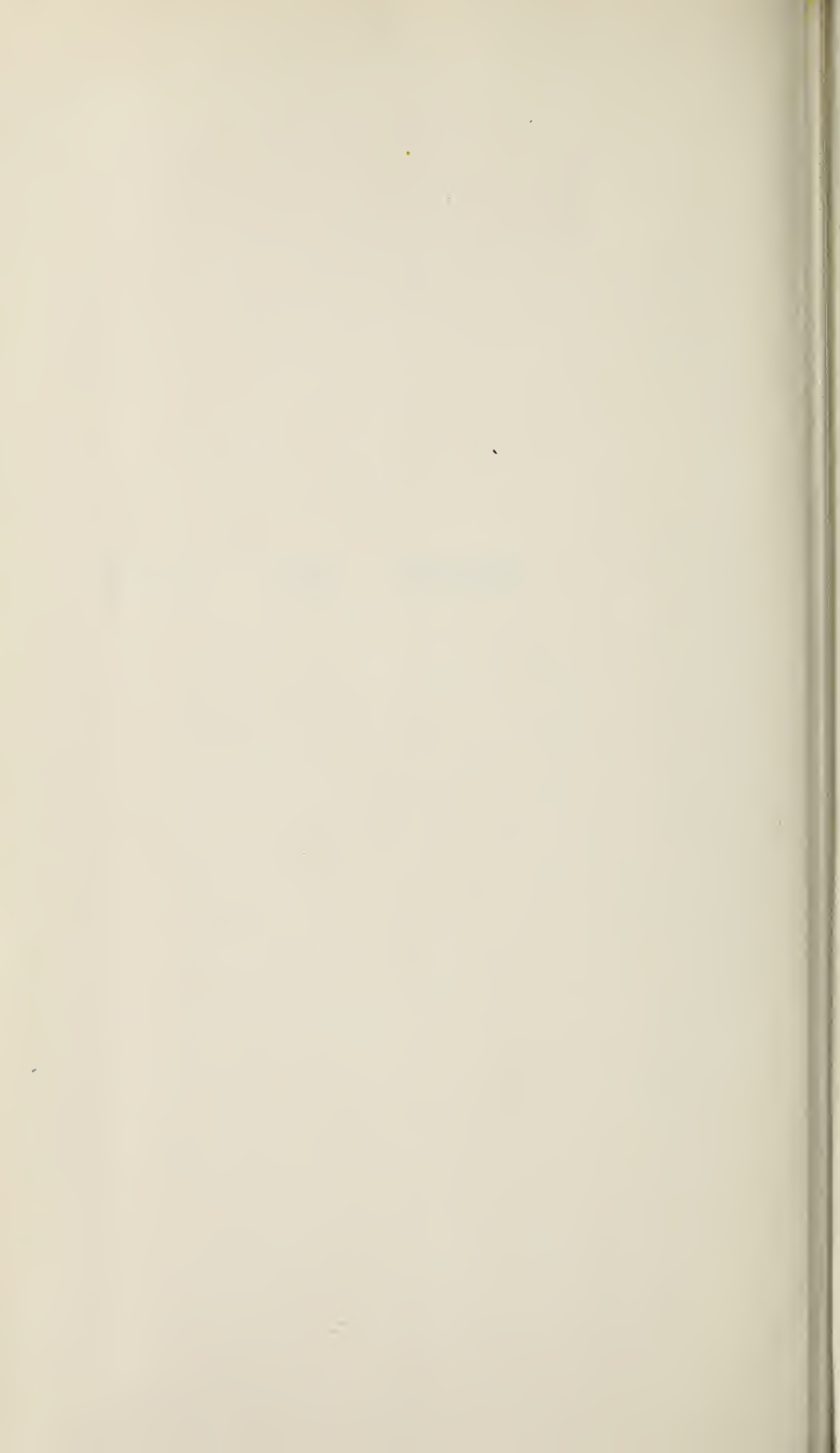
wishes to become a Member of the Yorkshire Naturalists' Union, and will subscribe HALF-A-GUINEA (10|6) per annum, until the end of the year in which written resignation is given.

..... { [Signature of Proposer and Secunder].

Elected ..... 190 at .....

..... Chairman's Signature.





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