

P R E F A C E .

THE Editor has to renew his thanks to his supporters, both those who have contributed notes and articles, and those who have furnished the necessary financial support without which no magazine can exist.

He has particularly to thank his botanical friends for the manner in which their department has been much better represented this year than in former years. It is, however, to be desired that the votaries of other departments of our field of research will follow the example of our botanical friends, and assist the Editor in keeping the journal well supplied with suitable and interesting matter. Biological articles are always gladly accepted, the only proviso being that they are in some way connected with the northern counties of England for which it is the aim of this journal specially to cater.

Illustrations will be gladly given, but to do this systematically a much larger amount of support is requisite. Will our readers therefore interest their friends with the view of an immediate and large increase in the number of supporters of a journal which has existed at various times ever since the year 1836. The first series of 'The Naturalist,' edited by Messrs. B. Maund and W. Holl, afterwards by Neville Wood, ran to five volumes during the years 1836 to 1839, the last four volumes being published at Doncaster. The second series of 'The Naturalist' was published at York in the years 1851 to 1858, under the successive editorships of Dr. B. R. Morris and the Rev. F. O. Morris, and ran to eight volumes. The third series of 'The Naturalist' consisted of two complete volumes and an incomplete third one; it was published at Huddersfield under anonymous editorship from 1864 to 1867. The fourth series was commenced in 1875, under the editorship of Messrs. C. P. Hobkirk and G. T. Porritt, by whom nine annual volumes were published at Huddersfield. In 1884 the place of publication was transferred to Leeds, since which it has appeared regularly under varying editorship.

THE NATURALIST

For 1894.

BIRD-NOTES

FROM THE MID-TRENT VALLEY IN 1893.

F. B. WHITLOCK,

Beeston.

THE climatic conditions of the year just drawn to a close, though very favourable for the observation of breeding birds, has not presented exceptional opportunities for the collection of facts relating to overland migration, which is by far the most interesting ornithological feature of this district. During the period when birds were moving towards their breeding-grounds we had a constant succession of brilliantly fine days, accompanied by light east winds, and whilst certain species which reach this district by the ordinary routes were a week or a fortnight earlier than usual, those which I maintain travel by our special fly-line, of the Humber and Trent valley, were only noticed about their average time. So regular are the pioneers of this latter movement in the time of their appearance, that I am inclined to think, especially as most of them are birds capable of sustained flight, that they make their journey at a stated time irrespective of favourable climatic conditions. An exception perhaps should be made in the case of the Hirundines, the main body of which certainly appears to be delayed by east or north-east winds of any violence.

It is a curious fact that our familiar Yellow Wagtail should come so regularly on 2nd or 3rd April, when the average date of its arrival in districts south of the Trent is quite a week later, while on the other hand, the Wheatear, which frequently turns up in more northern districts early in March, and in the High Peak by the end of the month, is never seen here much earlier than the middle of April.

With regard to the former species, if my contention is correct that our local birds first touch our coasts at the mouth of the Humber, it would be interesting to learn from what part of the Continent they come.

In the 'Zoologist' (1892, pp. 389-391) Mr. Cordeaux calls attention to the distribution and migrations of this species, specially remarking on its abundance on the Lincolnshire coast during the month of September.

In his interesting article he puts forth the theory that the large numbers of this species observed (I presume in the Humber district) are immigrants from some locality in central, or other more distant part of Europe, and that they travel to their winter quarters by an east to west route. Now, while I admit the possibility of the theory, I think it more probable that the birds observed in the Humber district are for the most part British examples, which merely make that part of the east coast their rendezvous before taking their departure to the Continent. A note quoted by Mr. Cordeaux, of flocks observed by Mr. Caton Haigh coming in across the sea from the east, may have been nothing more than birds travelling down the Holderness shores, and *apparently*, when crossing the Humber to the Lincolnshire side, flying in from the east. If these large flocks were travelling by the route suggested by Mr. Cordeaux they would most naturally take the Humber and Severn route, and, unless they passed over beyond the range of ordinary vision, could not fail to be observed by ornithologists en route. I am convinced, however, that the large number of Yellow Wagtails breeding in the Trent valley not only arrive in spring from the Humber district, which they have reached by the east of Spain, Rhone and either Seine or Rhine valley route, from their winter quarters, but that they return by the same, or nearly the same, route, and that continental ornithologists do not all of them distinguish *M. raii* from their more common *M. flava*, the differences of the two species in autumn plumage not being so marked as in the spring.

If my contention is correct, it is not very remarkable that a straggler of the latter species so very rarely turns up in the Eastern or North Midland Counties.

When flocks of *M. raii* arrive at the Humber in the spring I hold that they spread themselves fan-wise over the neighbouring counties, which will account for the fact of this species gradually diminishing in numbers the further away we get from the apex of the fan, the wave of migration slowly spending its numbers, and the Pennine Chain barring access to North-west England, where *M. raii* is decidedly scarce. No doubt much light would be thrown on this matter if readers of the 'Naturalist' would send short notes referring to this species, as to time of arrival, direction of flight and abundance during spring migration.

The following notes arranged under the counties refer to Notts and Derbyshire, and to Leicestershire in a lesser degree.

Fieldfare. *Turdus pilaris*. We had a many passing through during April, but the last had disappeared earlier than usual. Abundant in the autumn.

- Redwing.** *Turdus iliacus.* Very scarce this autumn in comparison with the former species.
- Song Thrush.** *Turdus musicus.* Numbers on migration in October. A pair which breed in my garden successfully reared three broods. A separate nest was constructed in each case.
- Redstart.** *Ruticilla phœnicurus.* Fairly common by 16th April.
- Redbreast.** *Erithacus rubecula.* A pair which breed in my garden had young April 6th. They reared a second brood in the same nest.
- Nightingale.** *Daulias luscinia.* 1893 was a favourable year for this species, and pairs bred in many places in South Notts. In one wood I heard four males singing within a radius of a hundred yards. I found a nest situated in a clump of dead herbage, by one of the rides. The entrance was well concealed. The nest was lined with horse-hair, and contained three eggs larger than the average. For several days in August a Nightingale remained in my garden, haunting the kidney beans and raspberry canes. I was very much struck with its redbreast-like attitudes and appearance.
- Whinchat.** *Pratincola rubetra.* This species nested earlier than usual. Clutches of seven eggs were common, and most that I examined were spotted. A clutch of three are hardly to be distinguished from eggs of the Stonechat (*P. rubicola*).
- Chiffchaff.** *Phylloscopus rufus.* First heard March 26th. More abundant than usual. I saw eggs closely resembling those of the Willow Wren (*P. trochilus*) in the colour of their markings.
- Willow Wren.** *Phylloscopus trochilus.* First heard April 7th, quite ten days earlier than usual. A nest containing a full complement of eggs found May 12th. Another I examined in Sherwood Forest was profusely lined with feathers of the Tawny Owl (*Syrnium aluco*).
- Wood Wren.** *Phylloscopus sibilatrix.* A few pairs observed in May at Clumber.
- Pied Flycatcher.** *Muscicapa luctuosa.* Visiting Sherwood Forest in August, I was just too late to see what I feel sure was an example of this species. It had been shot near Edwinstowe.
- Grasshopper Warbler.** *Locustella nævia.* This species was a little more plentiful than usual. I find the female does not always steal off her nest in the stealthy manner usually described. On 22nd May I was quietly walking down the ride

of a wood, when I observed a Warbler in a small ash tree. I saw at once it was a Grasshopper Warbler, and soon afterwards heard the reeling notes. I searched for the nest and quickly found it in a little blackthorn bush, well concealed by dead herbage. The bird I saw had probably just left the nest, which contained six eggs.

Wheatear. *Saxicola œnanthe*. First pair seen April 16th, others later in the month.

Tree Pipit. *Anthus trivialis*. First heard April 9th; common a week later.

Swallow. *Hirundo rustica*. A few seen flying eastward October 15th. Wind strong S.W.

Sand Martin. *Cotile riparia*. First seen (a flock) March 31st.

Swift. *Cypselus apus*. First seen April 30th.

House Martin. *Chelidon urbica*. This species is always the last of the Swallows to arrive. This year not seen till end of April.

Lesser Whitethroat. *Sylvia curruca*. The pair which breed in my garden were very late this year. I did not hear the male until May 4th. The young were out of the nest for the first time June 18th. I enticed one of them out of a hedge, till I caught it. The female, who was watching me, shuffled in front of my feet as I carried it across the lawn to show it to some friends. She seemed very much relieved when I released it again. The Common Whitethroat (*Sylvia cinerea*) was nesting early in May.

Goldfinch. *Carduelis elegans*. A flock seen September 3rd. A male accidentally shot had the usual crimson zone round the beak, of a deep claret colour. Individuals still about.

Tree Sparrow. *Passer montanus*. A large number of eggs were taken 11th May by the farmer on whose land the Iston Colony exists. I visited the other colony near Trent Station, on May 25th, in company with my friend, Mr. Storrs Fox, of Bakewell. We found few eggs; in some cases the young had flown, but in the majority we could hear them chirping in the nest-holes.

Yellow Wagtail. *Motacilla raii*. Four seen April 2nd. Pretty common a week later. An example seen August 13th in bright clean breeding plumage, and on the same day an individual in the buff nestling dress, very boldly spotted on the throat and breast.

White Wagtail. *Motacilla alba*. Examples seen April 16th and 20th.

Pied Wagtail. *Motacilla yarrellii*. On 12th June I went to see a nest in a curious situation. It was built in an old Tree Sparrow's nest in the topmost branches of a holly. It contained three eggs, one of them a Cuckoo's.

Reed Warbler. *Acrocephalus arundinaceus*. In company with Mr. Storrs Fox I visited all the usual haunts of this species in this neighbourhood, but we only heard one bird. But in June I found a colony of whose existence I was previously unaware. Two nests had been visited by a Cuckoo, one contained a young bird, the other a fresh egg. This was not far from the holly tree containing the Pied Wagtail's nest before mentioned. I have every reason to believe the same female had visited each nest, as the two eggs were very similar in character, but in different stages of incubation.

Common Bunting. *Emberiza miliaria*. Though a resident species, not nesting even this early year until June.

Snow Bunting. *Plectrophanes nivalis*. Six seen, and a pair shot for Nottingham Museum, December 3rd. Weather sharp.

Hooded Crow. *Corvus cornix*. Common in the early months of the year. First seen in autumn, October 29th.

Turtle Dove. *Turtur auritus*. I went on 16th July to examine some young, but found the nest occupied by a family of Weasels, who refused to move until compelled. Close at hand was a second nest, containing broken eggs.

Land-rail. *Crex pratensis*. The first I heard of was brought to my house April 24th. It had flown against the telegraph-wire.

Spotted Crake. *Porzana maruetta*. Scarce this year, or perhaps migrating early. I only heard of one individual. I believe, however, that a pair bred on the Derbyshire side of the Erewash. About the middle of April some chicks were calling that were certainly neither young Partridges nor Moorhens. I tried in vain to catch one.

Baillon's Crake. *Crex bailloni*. An example picked up dead at Gedling, June 22nd (vide Whitaker, 'Zoologist,' p. 459).

Charadriidæ. I think I heard a Common Sandpiper (*Actitis hypoleucos*) March 26th, which would be early, but owing to the favourable weather not many of this species or Dunlins (*Tringa variabilis*) remained to feed. The Redshanks (*Totanus calidris*) were first seen March 12th, about the same time that the Lapwings (*Vanellus cristatus*) took up their breeding stations. A pair of Green Sandpipers (*Helodromas ochropus*)

were seen at Ruddington in July, one of which was shot. On 13th August I saw another pair in Long Eaton Parish. A few Ringed Plovers (*Ægialitis hiaticula*) passed in spring, but at the end of August a party of eight took up their abode on a shingle bed on the Trent and remained several weeks. They were all immature and wonderfully tame. When watching them one morning I observed a couple of young Dunlins with them, and also a Common Snipe (*Gallinago caelestis*) quietly feeding by the water's edge. A pair of the latter birds bred with us.

Laridæ. Gulls. The usual migratory species were observed passing north, and the 'Nottingham Guardian,' May 13th, has the following note amongst the piscatorial items:—'Large numbers of the Common Sea Gull have occupied the shallows at Hazleford.' These may have been *Larus ridibundus* or perhaps Terns. Black Terns (*Sterna nigra*) were observed as usual in May. The Herring Gull (*Larus argentatus*) was unusually plentiful in September, chiefly adults. A Little Gull (*L. minutus*) was shot on the Trent as recorded in the 'Naturalist,' p. 356.

Manx Shearwater. Puffinus anglorum. An example caught alive at Toton Sidings, Sept. 11th. Winds light at the time.

Ducks. Anatidæ. During the early part of the year, the following species were observed on the Trent and tributaries: Mallard (*Anas boschas*), Teal (*A. crecca*), Pochard (*A. rufina*), Wigeon (*A. penelope*), Scaup (*Fuligula marila*), Tufted Duck (*F. cristata*), and Golden Eye (*Clangula glaucion*); a fine adult male of the latter was shot on the Derwent, near Borrowash. Mallards, at the time of writing, are plentiful in certain districts, and we have a few Wigeon, Teal, and Golden Eye about, but up to the present it has not been a good winter for ducks. In the early months of the year an individual, which I strongly suspect was a Gadwall (*Anas strepera*) haunted a marsh near Beeston; its flight was distinct from that of the Mallards, and it never rose until after the latter had left the marsh, and always from amongst the reeds.

In the spring a fine pair of Shovellers were observed on a pond near Ramsdale, and also some Tufted Ducks. On the same farm a flock of some species of Wild Goose were observed in April last. A pair of Garganey visited one of the ponds at Rainworth, as recorded by Mr. Whitaker ('Zoologist.')

Great Crested Grebe. Podiceps cristatus. Three pairs bred on a private water near Nottingham in 1892, and seven birds remained until the lake was frozen up.

YORKSHIRE NATURALISTS IN MID-RIBBLESDALE.

THE 105th meeting of the Yorkshire Naturalists' Union was held at Hellifield, on Bank Holiday Monday, August 7th, for the investigation of the valley of the Ribble from Gisburn to Sawley Abbey, and we may say, without fear of contradiction, that, to the working naturalist, no district could offer greater attractions. Practically unknown to most Yorkshiremen, this valley, with its magnificent river and finely wooded banks, is almost given over to our Lancashire neighbours, who are by no means insensible to its attractions. It cannot be doubted that the visit of the Union will have done something towards gaining for this lovely dale some such popularity which the north-country valleys, so dear to all Yorkshire naturalists, enjoy.

Parties of members arrived on the ground a day or two previous to the meeting, and some good work was done before the main contingent arrived. The total numerical strength, however, proved to be smaller than is usually the case at these excursions; and it is a matter of regret that more members did not avail themselves of the facilities offered for scientific research. Perhaps the inaccessibility of the district, coupled with the somewhat unpromising weather in the early morning, would be pleaded by many, but there is little apparent excuse for the meagre support given by the Skipton members, at whose instance the district was chosen.

Permission to visit their estates had been granted by Lord Ribblesdale, the Dowager Countess Cowper, and Mr. C. B. E. Wright, whilst the Union was also indebted to Mr. J. Baldwin, of Sawley, for the genial way in which he assisted in the arrangements and welcomed the members.

Three main routes were followed, and at the close of the day all met at the Black Horse Inn, Hellifield, where an excellent tea was provided. Sectional meetings were afterwards held, and at 6.30 p.m. the general meeting, presided over by Mr. R. H. Tiddeman, M.A., F.G.S. Thirteen societies were represented, and, this being the first meeting since the death of Mr. J. W. Davis (one of the Union's most ardent supporters, and for many years a member of the Executive), opportunity was taken, on the motion of Mr. J. J. Wilkinson, seconded by Mr. W. Denison Roebuck, F.L.S., of recording a vote of condolence with the deceased gentleman's family. It was felt by all that a vacancy was made which it would indeed be difficult to fill. Reports of the day's work were given by the officers of the various sections, and votes of thanks to the landowners and chairman concluded proceedings considerably

hurried on account of members having to travel by an early train. The following accounts are a summary of the day's work :—

The Rev. E. P. Knubley furnishes the following notes made by the Vertebrate Section :—The animals and birds seen during this excursion do not call for special remark. The birds which frequent the district are such as one would expect to find at this season of the year in a well-watered pastoral country, furnished with forest trees of mature growth, and interspersed here and there with coppices and undergrowth. Of the total number observed eleven were migrants and twenty-three residents. There were evidences in the little parties of young birds observed of at least thirteen of the species having nested in the district. The two most interesting birds noted during the day were the Pied Flycatcher and the Kingfisher.

Of the fish it was pleasing to obtain evidence that the Grayling still frequents the Ribble. Clarke and Roebuck in their 'Handbook of Yorkshire Vertebrata,' published twelve years ago, speak of its extreme scarcity, if not extinction, from that river, a result ascribed to the great increase of Salmon.

Mammals, 4.	Coal Tit.	Mappie.
Stoat.	Marsh Tit.	Jackdaw.
Weasel.	Blue Tit.	Rook.
Squirrel.	Wren.	Kingfisher.
Rabbit.	Pied Wagtail.	Sparrowhawk.
Birds, 34.	Grey Wagtail.	Kestrel.
Missel Thrush.	Yellow Wagtail.	Ringdove.
Song Thrush.	Meadow Pipit.	Pheasant.
Blackbird.	Tree Pipit.	Fishes, 7.
Whinchat.	Spotted Flycatcher.	Bullhead.
Redstart.	Pied Flycatcher.	Minnnow.
Redbreast.	Swallow.	Pike.
Whitethroat.	Martin.	Salmon.
Garden Warbler.	Sparrow.	Trout.
Willow Wren.	Chaffinch.	Grayling.
Hedge Sparrow.	Starling.	Eel.

The park at Gisburn belonging to Lord Ribblesdale is of special interest to vertebrate zoologists, as it was there where the last herd of Wild White Cattle known to be in Yorkshire was kept. The last survivor was killed in 1859, and a specimen is preserved in the Manchester Museum.

Mr. W. Denison Roebuck, F.L.S., was apparently the only conchologist on the ground. He investigated the neighbourhood of Sawley Abbey and the wooded slopes of the left bank of the Ribble upwards to Gisburn. Unfortunately Mr. Roebuck was not successful in finding the old river-channel which, on the occasion of

the Union excursion in 1881, was productive of so many species of aquatic mollusca, and therefore none of these were observed.

Of slugs 6 species and of land shells 19 were collected, making a total for the day of 25. Most of them—slugs especially—were only found sparingly, a natural consequence of the dryness of the summer as well as of the weather on the day itself. A particularly productive collecting-ground was afforded by an old and shapeless ruin about midway between Gisburn and Sawley. Here, and here only, were found *Helix granulata* (= *sericea*), *H. nemoralis*, *H. hortensis*, *Clausilia laminata*, and *Bulimus obscurus*, while both here and at various points along the Ribble bank occurred *Cl. perversa*, *Pupa cylindracea* (*umbilicata*), *Azeca tridens*, *Cochlicopa lubrica*, *Carychium minimum*, *Helix hispida* var. *hispidosa*, *H. rotundata*, *H. rufescens* (this in its usual profusion), *Hyalinia cellaria*, *H. crystallina*, *H. alliaria*, *H. nitidula*, *H. nitida*, *Vitrina pellucida*, *Arion ater*, *A. hortensis*, *A. subfuscus*, *A. circumscriptus*, *Agriolimax agrestis*, and *Limax marginatus* (*arborum*).

The entomologists were not able to report a very successful day, meteorological conditions being adverse. Few insects were seen on the wing, and the beetles collected were not numerous. The ruin on the river-bank, midway between Sawley and Gisburn, of which special mention was made on the excursion circular as being a happy hunting-ground for coleopterists, proved quite the reverse. Special mention might be made of *Silpha atrata*, which was taken under a stone. Mr. S. L. Mosley, F.E.S., spent the day in searching for Galls, with the following results:—

<i>Euura pentandrae</i> .	<i>Rhodites rosae</i> .	<i>Cecidomyia ulmariae</i> .
<i>Cynips kollari</i> .	<i>Rhodites eglanteriae</i> .	<i>Cecidomyia urticae</i> .
<i>Andricus gemmae</i> .	<i>Cecidomyia taxi</i> .	<i>Cecidomyia violae</i> .

With regard to the last named (*Cecidomyia violae*) it should be added that the flies have since bred, and an important feature of this discovery is that Mr. Mosley has been unable to find any previous record of its having bred in England.

Amongst the botanists were Mr. Chas. Crossland, of Halifax, and Mr. T. F. Ward, of Middlesbrough. The plants met with were quite what might have been expected and call for no special notice, excepting that Mr. Crossland was somewhat surprised to see the Purple Loose-strife. About 160 flowering plants were noticed near Sawley Abbey, amongst which were the following:—

<i>Thalictrum flexuosum</i> .	<i>Geranium sylvaticum</i> .
<i>Cardamine amara</i> .	<i>Geranium lucidum</i> .
<i>Stellaria nemorum</i> .	<i>Impatiens noli-me-tangere</i> .
<i>Hypericum androsæmum</i> .	<i>Alchemilla montana</i> .
<i>Hypericum dubium</i> .	<i>Sanguisorba officinalis</i> .

Rubus leucostachys.
Rubus lindleianus.
Rubus salteri.
Rubus rosaceus.
Rosa subcristata.
Rosa dumetorum.
Myriophyllum spicatum.
Hippuris vulgaris.
Sedum villosum.
Pimpinella magna.
Sium angustifolium.
Myrrhis odorata.
Pulicaria dysenterica.
Eupatorium cannabinum.
Hieracium murorum.
Hieracium sylvaticum.
Hieracium umbellatum.
Mentha rubra.
Mentha sativa.
Symphytum tuberosum.
Rumex aquaticus.
Salix helix (rubra).

Salix rugosa.
Salix nigricans.
Salix phillyreifolia.
 (*Salix laurina.*)
Potamogeton densus.
Allium oleraceum.
Scirpus sylvaticus.
Scirpus pauciflorus.
Schoenus nigricans.
Avena pratensis.
Equisetum sylvaticum.
Ophioglossum.
Epipactis purpurata.
Lycopus europeus.
Caltha palustris.
Paris quadrifolia.
Primula farinosa.
Pinguicula.
Lysimachia nummularia.
Parnassia palustris.
Iris foetidissima

Mosses.

Tortula intermedia.
Hypnum rugosum.

Hypnum molluscum.
Hypnum crista-castrensis.

The district is described as a promising one for pasture fungi, but it was too early in the season. Thirty species were collected, but either September or October would be the time for making a typical list.

For the Geological Section, Mr. W. Lower Carter, M.A., F.G.S., one of the secretaries, writes as follows:—

The geologists assembled at Chatburn Station, at 11.35, under the leadership of Mr. R. H. Tiddeman, M.A., F.G.S., whose work on the Ordnance Survey had rendered him perfectly familiar with the district. The first place visited was the Bold Venture Quarry just outside of Chatburn Station, where the Carboniferous Limestone is extensively worked. The beds in this quarry are tilted up at a high angle, and as the boulder clay, which covers the eastern slope of the hill, is removed, the surface of the limestone is shown to be smoothed and scored by glacial action, the markings showing a movement of the glacier from the north-east. At the other end of the quarry a good example of slickenside was seen, due to the movement of the beds along a line of fracture. The party then walked along the road to Sawley Abbey, but were disappointed in not being able to see the upturned limestone strata to be seen in the river-bed when the water is low. A slight diversion was made for the examination of a limestone quarry on the hillside, which showed

an interesting flexure of the limestone beds, relieved by an overthrust, forming a reversed fault.

The party next visited Sawley Abbey, which was pointed out by the leader as an ancient example of jerry-building, the walls being formed of calcareous shale, which has undergone rapid disintegration, instead of the solid limestone of the neighbourhood being used. The party then crossed the Ribble, and made their way over the alluvial flat to Bolton Park, where they were shown over the conservatories by the kind permission of Mr. C. B. E. Wright.

From Bolton Mr. Tiddeman struck back to the Ribble, and for some distance the party made their way along the high, wooded bank of the river gorge. When an opportunity was afforded them a descent was made to the river-side, and a rough scramble along a very primitive and rocky path by the water's edge ensued. The Ribble between Gisburn and Sawley has excavated a gorge through the Carboniferous Limestone beds, which are the lowest beds seen in the district. As the river runs almost along the strike of the beds very little variation in the geology was seen, and these lower beds did not yield any fossils on the present occasion. A return to the upper regions and a rapid walk across country to Gisburn Station completed the afternoon's ramble.

During the day Mr. Tiddeman explained the structure of the district, which was pleasantly undulating, with the huge hump of Pendle Hill rising high to the south-east. The strata of this district are thrown into a series of folds running from south-west to north-east, the central anticline (Clitheroe anticline) running past Skipton to Bolton Abbey. The Clitheroe Limestone beds of the Carboniferous Limestone series form the centre of this anticline. Above this more massive rock come shales with limestone bands, which often thin out in each direction, and are reef-like in character. Then comes a more massive bed, the Pendleside Limestone, above which, separated by shales, is the Pendleside Grit. Higher still is a series of thick shales, the Bowland Shales, which are the equivalent of the Yoredale beds of the northern Yorkshire dales. The steep western slope of Pendle Hill is due to the rapid disintegration of these comparatively soft beds. The summit of the hill is formed of the massive Pendle Grit, the basement bed of the Millstone Grit Series, to the eastward of which come the Kinder Grit, the Third Grits, and the Rough Rock, separated from each other by shales, and overlaid by the coal measures of the Burnley Coal Field.—LEONARD HAWKESWORTH.

NOTE—MAMMALIA.

Water Shrew in North Wales.—As the localities given for the Water Shrew (*Crossopus fodiens*) in Mr. Carr's lately published list of Nottinghamshire Mammals ('Geology and Natural History of Notts,' p. 34) refer only to South Notts, it may be as well to note its occurrence at Grove and Headon in the North of the county. At Grove it frequented a ditch, running by the side of a plantation, and here I caught several; and on March 7th, 1890, a specimen of the variety formerly distinguished as the Oared Shrew (*C. remifer*).—LEONARD BUTTRESS, Hendon, Middlesex, December 22nd, 1893.

NOTES AND NEWS.

Our old contributor, Mr. T. Mellard Reade, F.G.S., has a paper in the November number of 'Natural Science' on 'The Genesis of Mountain Ranges,' and the same number has a paper of some length by Mr. G. B. Rothera, F.L.S., 'On the Ætiology and Life-History of Some Vegetable Galls and their Inhabitants.'

Mr. Mellard Reade has a further paper in 'Natural Science' for December, the subject being 'High-Level Shelly Sands and Gravels,' based upon observations and studies made in Wales and the North-West of England, with a reprint of which we have been favoured by the author.

The Editors of the 'Irish Naturalist,' which we are glad to note is doing such excellent service to the natural history of the sister island, announce for their next year's volume from the pens of Mr. W. E. Sharp, of Cheshire, on 'The Coleopterist in Ireland,' and of Dr. B. F. Scharff on 'The Irish Woodlice.' The interest of the latter is to be enhanced by the paper including descriptions and figures of all the British species.

Three of our contemporaries have ceased to exist with the past year—'Science Gossip,' the 'Midland Naturalist,' and the 'British Naturalist'—all of which have done valuable service for natural science in their respective spheres during the years that they have appeared.

In the case of the 'British Naturalist,' all our readers will share the regret that we feel that ill-health is the cause which has compelled Mr. J. E. Robson to bring the magazine to a close with its fourteenth volume. His own personal contributions to the magazine have been among the most interesting articles it has contained, and we trust that his health may soon be re-established, and that our scientific periodicals will long continue to benefit by his long and ripe entomological experience.

In the case of 'Science Gossip' too, we regret to note that its editor's ill-health has been one of the determining factors which has brought about its discontinuance. The impetus which this popularly conducted magazine has given to the study of natural history has been very great, and not to be measured by the quality of its contents, which has necessarily been of an uneven character.

The 'Midland Naturalist,' which our friends at Birmingham have carried on with much vigour and spirit, has been the medium through which a number of valuable papers on natural history of the midland counties of England have been given to the world. Unfortunately it has not of late years been so exclusively devoted to local natural history as we could like to have seen—and much space has been devoted to matters which however interesting or ably written, can hardly be looked upon as coming within the scope of the naturalist's field of work. The journal has always been ably edited, and as a typographical production has always reflected much credit on the Birmingham press.

The 'Nature-Lover,' whose appearance we noted a while ago, has also ceased to appear; and another periodical also, the 'Field-Club,' whose disappearance we can scarcely pretend to regret, inasmuch as it supplied no recognised want, and was probably merely a publisher's venture.

LEPIDOPTERA IN THE NEIGHBOURHOOD OF YORK, 1893.

WILLIAM HEWETT,

Hon. Sec. and Entomological Recorder to the York and District Naturalists' Society, York; and one of the Hon. Secs. for the Entomological Section of the Yorkshire Naturalists' Union.

THE season which is now rapidly drawing to a close, and which will long be remembered meteorologically on account of the marvellous weather experienced, has not been equally memorable for quantity or quality of Lepidoptera noticed.

Many generally common insects have been either very rare or else entirely conspicuous by their absence, and the only species which have been more than usually common at York this season are the following:—*Pieris brassicæ*, *P. rapæ*, *Vanessa urticæ*, *V. atalanta*, *Acherontia atropos*, *Sphinx convolvuli*, *Macroglossa stellatarum*, *Orthosia suspecta*, *Anchocelis litura*, *Phlogophora meticulosa*, *Hadena protea*, *Asthena sylvata*, *Venusia cambricaria*, *Lobophora lobulata*, *Collix sparsata*, *Lomaspilis marginata*, *Thera variata*, and *Diurnea fagella*, whilst of those which have not occurred in anything like their usual numbers, the following amongst many others may be quoted:—*Zygæna loniceræ*, *Lithosia mesomella*, *Arctia lubricipeda*, *Acronycta leporina*, *Noctua festiva*, *N. rubi*, *Agrotis porphyrea*, *Tæniocampa populeti*, *T. leucographa*, *Epione vespertaria*, *Aspilates strigilaria*, *Eupithecia satyrata*, *Acidalia immutata*, *Hypsipetes elutata*, *Phibalapteryx lignata*, etc.

Of those species which have entirely failed to put in an appearance and which we generally take each season in some numbers are *Nudaria senex*, *Hydrelia unca*, *Plusia festucæ*, and *Miana arcuosa*.

My first outing took place on the 14th February in quest of the variety *fuscata* of *Hybernia progemmaria*, of which I took six; my last on the 3rd November, when sugar produced but a few *Scopelosoma satellitia* and *Cerastis vaccinii*.

Hybernia aurantiaria, *H. defoliaria*, *Cheimatobia boreata*, and *C. brumata*, were very scarce, whilst *Oporabia dilutaria* and *Himera pennaria* were not seen. I have noticed the gradual diminution in point of numbers of these species for the past ten years; each year they become scarcer in this neighbourhood; why, I know not. My worst outing produced five moths, my best 253; altogether this season I have set considerably more than 3,000 specimens.

Early appearances.—Owing to the almost tropical weather, instances of early appearances have been far too numerous to mention

here; on the whole, species have appeared fully a fortnight earlier than usual, in many instances three weeks, and in some exceptional cases even a month in advance of ordinary seasons.

Melanism.—Instances of melanism in specimens captured this season have not been up to the average; a very large number of the Noctuæ and Geometræ (especially the former), which occur in the neighbourhood of York, are more or less subject to melanism; a full list of the species which show this tendency and have come under my observation will be given at some future date.

Sallows were very unproductive, being well out by the 10th of March, and doubtless on this account, the generally seductive blossoms failed to attract the *Tæniocampidæ* in anything like their usual numbers.

Sugar.—Whilst we have had very few poor nights at sugar, the quantity has rarely been great and the quality invariably poor, the reason for this having been, in my opinion, not the counter attraction of honey-dew, at which I have noticed very few moths, but the general scarcity of Noctuæ.

Ivy-blossom.—On the 30th September, I had my first night at Ivy-blossom, in the Westwood, Beverley, where the Ivy is especially abundant, clinging in wild luxuriance around the fine old hawthorn trees, which here form such a conspicuous feature of the landscape, but although the night was favourable from a meteorological point of view, the blossoms fine, large, and plentiful, and the odour perceptible even to human nostrils, our would-be guests failed to put in an appearance, except by ones and twos, quite different to the nights at Ivy-blossom one often reads about. A friend of mine, who has worked Ivy on numerous occasions this season informs me that he has had almost uniformly bad luck.

Geometræ have been on the whole very scarce, and 'nothing' at and after dusk uniformly unproductive. In the daytime at rest on tree trunks, palings, etc., but especially the former, *Tephrosia biundularia* and its variety *delamerensis*, *Asthena cambricaria*, *A. blomeri*, *Lobophora lobulata*, *Tephrosia punctulata*, *Asthena sylvata*, *Abraxas ulmata*, etc., have been fairly common, whilst *Lomaspilis marginata*, *Thera variata*, and *Fidonia piniaria*, could be obtained in abundance by means of the 'beating stick.'

Scarcity of Lepidoptera.—I think this has been due in a great measure to the extraordinary abundance of their natural enemies, Ichneumons, Wasps, Dragon-flies, and Bats, which, together with Swifts, Nightjars, and other insectivorous birds have, thanks to the fine weather, been enabled better to follow their work of destruction, and lastly, and by no means least, to the great drought

which has prevailed, these causes having also undoubtedly tended to minimise the number of larvæ, which have been unusually scarce.

The following species of Noctuæ, which are not usually double-brooded with us, have this year been double-brooded or partially so : *Leucania pallens*, *Acronycta psi*, *A. rumicis*, *Noctua plecta*, *N. c-nigrum*, *Agrotis segetum*, *A. suffusa*, *Hadena suasa*, and *H. oleracea*.

NOTE—LEPIDOPTERA.

Acherontia atropos near Barnsley.—I have to-day seen an unset specimen of *Acherontia atropos* which had been disturbed and captured, 'about two months ago,' by some boys whilst playing in an old hollow willow near Cudworth. The species is seldom recorded from this district.—WM. E. BRADY, Barnsley, 8th December, 1893.

NOTE—ZOOPHYTES.

Alcyonium digitatum on Yorkshire Coast.—Some of the incidents of the great gale at Flamborough on the 18th and 19th of November, from the N. and N.E., are worth placing on record. The sea broke a mile from land in ten fathoms, so that at that distance the bottom must have been thoroughly stirred up and disturbed. Several lobsters were cast up and the newspapers recorded great numbers of fish also south of the Head towards Withernsea. On the 22nd I found an extraordinary quantity of *Alcyonium digitatum*, one of the Asteroid Polypes, broken off from their moorings and cast on shore. This is better known as 'dead-man's hand' or 'fingers.' The fishermen also call it 'cows' paps.' I also picked up a wave-cast Stormy Petrel on the south side of the Headland—poor little fellow, he could not weather this storm. Many Little Auks were seen near the coast, and three storm-driven birds caught inland.—JOHN CORDEAUX, Great Cotes, R.S.O., Lincoln, Dec. 12th, 1893.

NOTES—ORNITHOLOGY.

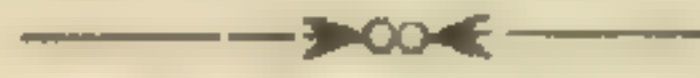
Occurrence of the Barred Warbler in Holderness.—On November 13th, Mr. Philip Loten, of Easington, received a young male of this species (*Sylvia nisoria* Bechstein) shot on that day by Mr. G. E. Clubley, at Kilnsea. This is the third occurrence of this straggler to England in that neighbourhood—the first obtained by the Rev. H. H. Slater, at the Spurn, on August 28th, 1884; a second, October 19th, 1892, and this.—JOHN CORDEAUX, Great Cotes, R.S.O., Lincoln, December 5th, 1893.

Early Appearance of Fieldfares in West Cumberland.—On Tuesday, October 17th of the present year, the weather being extremely genial and summer-like, the writer was taking an afternoon stroll on the outskirts of the seaport of Workington, when he suddenly heard the characteristic 'clacking' cry of a flock of fieldfares (*Turdus pilaris*) in full flight. Seeing no birds near him, he felt at first that he must be mistaken. Presently the cries were repeated vigorously, and casting a look in an upright direction, he saw immediately overhead a flock of fieldfares numbering about a hundred. Their line of flight was at a much greater elevation than is customary with these birds, and the direction was towards the south-west. The usual time of their appearance here is about the end of October, or during the first days of November, and their early presence is regarded as ominous of severe weather in the near future.—W. HODGSON, Workington, November 27th, 1893.

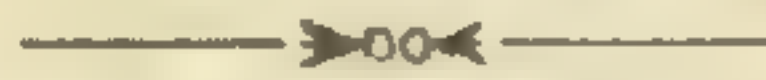
It will be of interest to mention that I saw a Fieldfare near Edinburgh, on the 24th of September; the first I ever saw in Britain in that month.—W. E. CLARKE.

NOTES AND NEWS.

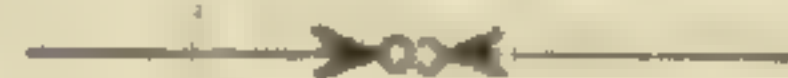
The Florula of the Huddersfield district, which includes portions of three Yorkshire drainage-areas, viz., Calder with Colne, Don with Dearne, and Mersey tributaries, is being admirably worked out historically by Mr. T. W. Woodhead. The November circular of the Huddersfield Naturalists' Society contains an abstract of a paper by him, which includes a bibliography, statistical details of the district and its area, an analysis of the 909 plants on record, with notes on additions, aliens, casuals, introductions, and errors, and a list of common plants which still remain to be added to the list for the Mersey area.



We note that our old friend and former colleague in the editorship of this journal, Mr. Edgar R. Waite, F.L.S., has lost no time in his natural history researches in Australia. He has taken up the *Typhlopidae* of that island-continent, and the results of his work are printed in the 'Records of the Australian Museum,' Vol 2, No. 5, in the form of 'Notes on Australian *Typhlopidae*, of which a reprint lies before us, illustrated by a plate of figures from Mr. Waite's own hand. Of these reptiles, one species—*Typhlops proximus*—is described and figured as new. The difficulty of determination of these snakes is enhanced by the fact that the types of the fifteen previously described species are all in European museums, thus placing Australian investigators at a disadvantage; nevertheless, we shall look forward to further results from Mr. Waite's labours.



A new volume of the International Scientific Series on the 'Dispersal of Shells' (which we hope to notice in an early number), is from the pen of our friend and contributor, Mr. H. Wallis Kew, F.Z.S. (formerly of Louth, Lincolnshire). The book, for which Dr. Alfred Russell Wallace has written a preface, contains a large number of interesting and curious facts, illustrating the means of dispersal possessed by freshwater and land mollusca; and, as is gratifying to note, it testifies in an ample manner to the activity and energy of North of England observers and naturalists. The names of the following, who are well known to our readers, are indexed as having communicated information, or as having published facts of which the author has made use:—The Revs. Canon Fowler, Canon Norman, Canon Tristram, J. C. Atkinson, H. A. Macpherson, E. A. Woodruffe-Peacock, Sir R. Payne-Galwey, Mr. Gain, Mr. Cordeaux, Mr. Baker Hudson, Mr. T. H. Nelson; Messrs. E. Collier, R. D. Darbishire, J. R. Hardy, T. Rogers, and R. Standen, of Manchester; Mr. J. Henshall, of Barton-on-Irwell; Mr. F. C. Long and Mr. J. R. Wildman, of Burnley; Mr. J. E. Mason and Mr. E. Woodthorpe, of Alford; Mr. R. W. Goulding, of Louth; Messrs. W. Nelson, W. Denison Roebuck, and J. W. Taylor, of Leeds; Mr. Fierke, of Hull; Mr. Heathcote, of Preston; Mr. Roberts, of Lofthouse; Mr. J. Burt Davy, (late of Alford); Mr. C. T. Musson (late of Nottingham), etc., etc.



The Rev. E. F. and Rev. W. R. Linton have just issued a prospectus of a series of dried specimens of the British Willows. The set will consist of 100 numbers in four fascicles of 25 each, at 15s. 6d. a fascicle, post free. Special attention is to be paid to the hybrids, of which cuttings from wild habitats have been taken and carefully grown; being thus always under observation the slightest variation could be studied. From these stocks the specimens will be taken. Those who are fortunate enough to possess the Rubi sent out by these gentlemen and their friends, know how beautifully they are prepared and carefully named—very different from the collections that used to be 'made in Germany'—and the willows will doubtless be equally good. The price ought not to deter subscribers; does it pay for time and material? We hope so. The first 25 specimens will be sent out early in the year, and are to contain amongst others, *S. daphnoides* Vill., *S. cinerea* × *phylicifolia*, *S. aurita* × *myrsinites*, *S. aurita* × *viminialis*, *S. nigricans* × *phylicifolia*, *S. purpurea* × *repens* (*S. doniana*), *S. myrsinites* × *nigricans* and *S. grahami*, etc.—a good selection. This fascicle may be purchased for 15s. 6d., post free, without any obligation to take the rest of the set. The Rev. E. F. Linton, Crymlyn, Bournemouth, will receive subscriptions and furnish information.

A FEW REMARKS UPON DIPTERA.

R. H. MEADE,
Bradford.

I OFTEN wonder that dipterous insects (flies) are not more studied. Their life's history is often very interesting, some being leaf-miners, others gall-makers, and many parasites upon the larvæ of other insects. Diptera also are ubiquitous; several species of small flies may be found on the windows of houses and stables at all times of the year except in the depth of winter, and numbers may be caught in almost any garden even in the neighbourhood of a large town. If any student anxious to know something about them will take the trouble to capture all the different flies that he can find, I will gladly name them for him; only he must promise after a short time to try to determine the genera and species for himself before he sends them to me.

I would recommend anyone who possesses a garden to collect all the diptera that he can find within its precincts, and keep them separate from others, and thus make a small local collection. He might afterwards extend the radius.

With regard to the mode of capture and preservation of diptera I would like to make a few suggestions. I always catch my specimens with a pair of muslin forceps of five or six inches in diameter, but some dipterists prefer a net, which is useful for sweeping grass. After taking the fly between the blades of the forceps it should be gently squeezed between the finger and thumb (but not crushed), and then placed in a small cyanide bottle, which should contain some small pieces of good white blotting paper to absorb moisture and prevent the flies from turning black, and also to keep them from injuring one another when the bottle is shaken. When taken from the bottle they should be transfixed with a fine and rather long pin in the following manner* :—The fly should be placed upon a small pincushion, and the pin passed so far through the thorax that when it is drawn out of the pincushion there will be room to take hold of it, with the steel forceps beneath the fly, so as not to bend the pin. If the insect stands some distance above the cork in the box or drawer it is also less likely to be injured by mites. It is not necessary to set diptera beyond spreading out the legs a little.

* I do not like the carded diptera, as the parts of the mouth and the under surfaces cannot be so well examined, and they are very liable to be destroyed by mites.

It is very interesting to rear many of those diptera which blotch or mine the leaves of plants or trees, or form small galls in flower heads. My old friend, Mr. Peter Inchbold, was very fond of this pursuit, and very successful in his efforts. The leaves or flower heads should be placed in a wide-mouthed bottle or a box, which is covered with muslin or a glass top, and has a little moistened earth at the bottom. This must be watched from time to time, and a little water be added occasionally, for the imagines emerge better from the pupæ when their surroundings are moist. Some species will come out in the course of a few weeks in the summer, while others will remain in the larva or pupa state for a long while, or all through the winter.

The parasitic flies (*Tachiniidæ*) form a very interesting group to which I have paid considerable attention.† I wish Lepidopterists would carefully preserve all that they freed from the larvæ of moths or butterflies, and note the species from which they emerge, and if they would send them to me I should be much obliged, and would gladly name them for any one who would like to keep a collection of them himself.

In conclusion, I may add that I shall have great pleasure in giving any information that I can upon any points respecting the study of diptera, and shall be very pleased if I can induce a few more entomologists to take an interest in this order of insects, which is much more neglected in Britain than on the Continent.

NOTES AND NEWS.

We regret to learn of the decease of two Newcastle naturalists, Mr. William Maling, well known for his entomological attainments, and Mr. William Dinning, the honorary secretary of the Natural History Society of Northumberland and Durham. The latter, who had for some time been ailing, died at the early age of 57.

—»co«—

Illustrations of the elevation and ground-plan of the proposed new Sedgwick Museum at Cambridge are given in the December number of 'Natural Science.' When finished the block of buildings will form an enduring and worthy memorial of the distinguished geologist of Dent.

—»co«—

We have received from Messrs. Frederick Warne and Co. prospectuses and the first part of their new 'Royal Natural History,' which is to be published monthly in shilling parts, each containing a couple of coloured plates in addition to being profusely illustrated by a series of most admirable wood-engravings. Mr. Richard Sydekker is the Editor, from which we may expect the work to be thoroughly well done. Of the twelve sections into which the book will be divided, no less than five will be devoted to the Mammals, three to the Birds, one to Reptiles and Amphibians, one to Fishes, one to Insects and Crustaceans, and one to the rest of the invertebrata, from Mollusca to Protozoa; this arrangement fairly representing the proportion in which the various classes bulk in popular estimation.

† See annotated list of British Tachiniidæ in the 'Ent. Monthly Mag.' for 1891-1892.

A STUDY OF SEED-DISPERSION IN LINCOLNSHIRE.

REV. E. ADRIAN WOODRUFFE-PEACOCK,

*Botanical Secretary Lincolnshire Naturalists' Union, and Curator of
Lincolnshire County Herbarium.*

IN 'The Origin of Species,' ed. 6th, 1888, vol. II, p. 175, Charles Darwin says:—'I do not believe that botanists are aware how charged the mud of ponds is with seed.' In illustration he adds that some mud, taken from three different spots, beneath water, on the edge of a little pond, which when dried only weighed altogether $6\frac{3}{4}$ ounces, yielded 537 seedling plants, pulled up as they came, in six months under a bell glass in his study, when a little pure water was added. This experiment is very suggestive, but would have been much more so had this learned author told us whether a stream or small ditch ran into his 'little pond.' As the subject is interesting from many aspects I have collected the following notes from several sources.

A little stream rises in and around Caistor, on the Chalk Wold, and flows some 10 to 12 miles due west and falls into the river Ancholme, between the parishes of North Kelsey and Cadney-cum-Howsham. Its lower reaches and bends are full of sand washed down from the drift-deposits lying on the Chalk, Spilsby Sandstone, Tealby Limestone, and Kimeridge and Oxford Clays, which form the bed of the little watershed. When a dry summer comes the waters are turned into one of the land drains in the surrounding carrs, and two to three feet of sand is thrown out on to the banks to be led away as top-dressing for the peaty fields through which the beck flows. The waters this season were turned on the 23rd of May, and finally dammed on the 5th of June, when the beck slowly dried up for about a mile of its course. The sand varied a little in quality in different places, being especially rich, if we may judge from the flora, along that stretch which was cleaned out last season. Here and there, at a bend of the stream, the sand was much coarser and quite free from plants; the force of the current thrown to one side of the beck not having permitted the seeds to find a nidus. By the beginning of September in many places it was carpeted with vegetation from side to side, but as a rule the whole bed was only sporadically covered, for the species did not exist in the same numerical relation as on the watershed soils. The bank and edge flora retained their usual positions as if the waters were still flowing.

The White Turnip (*Brassica Rapus*) washed out of the higher land was plentiful, with here and there an Oat (*Avena sativa* L.), but no Barley (*Hordeum vulgare*), which might be expected, or Wheat (*Triticum vulgare*) which certainly would not, unless it were one of the spring varieties (*T. æstivum*). The following notes are far from complete, for many of the smaller species were not in flower, and the seedling grasses, willows, etc., were beyond recognition in their advanced state. I have followed the London Catalogue order and nomenclature.

Ranunculus sceleratus L.

Papaver Rhœas L. **P. dubium** L.

Nasturtium officinale R.Br.

Nasturtium palustre DC. New to this neighbourhood.

Sisymbrium Sophia L. (F. A. L.)

Capsella Bursa-pastoris Mœnch.

Reseda Luteola L., seedling.

Viola arvensis Murr.

Silene noctiflora L. Common in suitable situations in both vice-counties (53 Linc. S. and 54 Linc. N.).

Lychnis alba Mill.

Cerastium triviale Link. **C. arvense** L.

Stellaria media Cry., and also **C. neglecta** Weihe.

Sagina procumbens L. New to this neighbourhood.

Spergula arvensis L. Both varieties have been introduced into this parish, Cadney, in sand from the beck. It is not a native of the peaty carrs.

Malva sylvestris L.

Geranium Robertianum L.

Erodium cicutarium var. **vulgatum** Syme. Also introduced into Cadney with beck sand.

Ulix europæus L., seedling from higher up the stream.

Medicago lupulina L.

Trifolium repens L.

Vicia hirsuta Hook. All the specimens of this plant I took up had tuber-like appendages to the roots.

Vicia sativa L. Washed out of a field of 'tares.' Roots same as last.

Epilobium hirsutum L. **E. parviflorum** Schreb.

Gnaphalium uliginosum L.

- Inula dysenterica* L.
Matricaria inodora L.
Tanacetum vulgare L.
Artemisia vulgaris L.
Tussilago Farfara L.
Senecio vulgaris L.
Senecio sylvaticus L. From the higher watershed.
Lapsana communis L.
Leontodon autumnalis L.
Sonchus oleraceus L.
Anagallis arvensis L. Come down from the head waters. Not found on any of the intermediate soils.
Myosotis palustris With.
Linaria vulgaris Mill.
Scrophularia aquatica L.
Veronica Anagallis L. *V. Beccabunga* L.
Pedicularis palustris L.? Seedling, but I have no doubt about it. (W. F.)
Mentha hirsuta L. The same.
Nepeta Glechoma Benth.
Stachys sylvatica L.
Scleranthus annuus L. I have no other locality in the watershed of the beck.
Atriplex erecta Huds.
Atriplex deltoides var. *prostrata* Bab.? I have no other record in whole county for either species or variety. (W. F.)
Polygonum convolvulus L. *P. aviculare* L.
Polygonum persicaria L.
Rumex conglomeratus Murr.
Rumex palustris Sm., or perhaps the much more common *R. maritimus* L.
Urtica dioica L.
Parietaria officinalis L. New to this little watershed.
Salix cinerea L., and one or two *Salices* I cannot be sure of.
Juncus lamprocarpus Ehrh. *J. bufonius* L.
Juncus bufonius var. *fasciculatus* Hock. First record for county.
Triglochin palustre L. New to a wide locality.

Agrostis alba var. **stolonifera** L. The 'Twitch' of our carr fields, where both the type and variety are found only too plentifully after a series of wet seasons.

Glyceria fluitans R.Br. With a number of other *Gramineæ* too uncertain to name.

This short list was only completed after half a dozen visits to the beck, during two months.

My best thanks are due to Mr. Job Richardson, of Cadney, for calling my attention to the beck vegetation and diligently collecting specimens, and to the Rev. W. Fowler, of Liversedge, for naming a number of specimens at a time when the County Herbarium and Flora work were keeping me more than fully employed.

The sand of the beck was burrowed in all directions by the shallow runs of the Mole (*Talpa europæa* L.); and the Frog (*Rana temporaria* L.) was plentiful, the Toad (*Bufo vulgaris* L.) scarce. There were very few birds, and only of the commonest kind.

Since these words were penned the whole stretch of sand has been thrown out, and during the coming winter will be carted on to the fields around. Next season many plants new to the carrs will appear and then die out. Perhaps they are of some little value to the agriculturalist, for they take the place of native and more prolific congeners, and prevent them leaving successors. The rich soils of the well-farmed carrs will grow wicks of some kind.

In May 1893 I examined two Pollard Willows in Cadney, not far from the village, and in their large open heads, about seven feet from the ground, found the following plants :—

- Rubus fruticosus** L., var. uncertain.
- Galium Aparine** L.
- Alliaria officinalis** Andrzej., many plants.
- Ribes Grossularia** L., several plants.
- Rosa canina** L., var. uncertain.
- Urtica dioica** L.
- Cratægus Oxyacantha** var. **monogyna** Jacq.
- Fraxinus excelsior** L.
- Pyrus Aucuparia** L., one plant, but very common on willow trees about.
- Rumex conglomeratus** Murray.
- Agrostis vulgaris** With.
- Ribes sativa** Reichb., one plant.

On the 8th of September I visited Scotton Common to make notes on the sheets of water there. Ferry Flash was quite dried up,

but I saw no signs of vegetation, and could hardly expect any as there is not a ditch running into it. The Gull and Duck Pond on the east side of Hardwick Hill was very low, but there was nothing worthy of a note to be seen. The Gullery is an off-shoot from Mr. R. N. T. Nelthorpe's more famous one at Twigmoor, and would soon be as fine were it properly protected by trees, and carefully watched. I saw plenty of young Black-headed Gulls (*Zarus ridibundus* L.), and Wild Ducks (*Anas boschas* L.), and what I took to be a pair of Redshanks (*Totanus calidris* L.) and young, earlier in the summer, while botanising on the Common. In September a few pairs of Teal (*Querquedula crecca* L.) and eighty Wild Duck were flying round the pond after I had left it. The prolonged heat of the summer was shown by *Gentiana Pneumonanthe* L., *Drosera rotundifolia* L., and *Teucrium Scorodonia* L. being in flower, while one spot of boggy ground was a lovely white with the flowers of *Parnassia palustris* L.

On the 12th of September, 1893, I examined the moat round the old Hall, at South Kelsey, which was drained the year before but only dried up this season. There is no inflow or spring here apparently, so the water is only 'sipe,' which has percolated through the Kimeridge Clay around. The whole bed was a mass of luxuriant vegetation, but the species only of kinds likely to be found in such a situation, with the exception of *Lycopus europæus* L., which I have not hitherto found in a pond away from the Carrs or land-drains. *Rumex maritimus* L. was certainly the species found here.

The Lincolnshire County Herbarium grows apace, and will be almost perfect by the end of this season, if it progresses at its present rate. While 20,000 place notes are tabulated in 'The Locality Register' as the result of two years' incessant labour. May I beg all botanists to send me full notes of rare Lincolnshire plants in their private collections, with parish, name of collector, and date appended.

NOTES AND NEWS.

The Journal of the Linnean Society (Zoology), No. 156, contains the second instalment of Prof. W. A. Herdman's 'Notes on British Tunicata,' after an interval of no less than thirteen years. The present instalment gives some corrections of the former paper, and notes on some of the British *Cynthiidae*, and is illustrated by three plates.

It is a pleasure to note the success of the series of 'half-hour talks' which are being given in connection with the Nottingham Free Public Libraries, dealing with books and book-writers. Scientific authors are not neglected, as we see that Mr. C. L. Rothera, the borough coroner, in giving the ninth of the series at the beginning of last month, took the works of Charles Darwin for his theme.

BOTANICAL EXCHANGE CLUB REPORTS.

The Botanical Exchange Club of the British Isles. Report for 1892.
James Collins & Co., Manchester.

The Ninth Annual Report of the Watson Botanical Exchange Club,
1892-3. William Sessions, York.

THE last reports, recently published, of our two British Botanical Exchange Clubs are scarcely equal in interest to some of their predecessors. This is inevitable, unless the passion for differentiation is developed to the numeration of setæ on the peduncles of a rose, or the measuring of the tomentum on a bramble leaf, the area for new discovery, or even of varietal extension becomes, of course, each year increasingly smaller. And there are wholesome signs that even this tendency to discover fixed forms in merely casual deviations from type does not meet with favour from some of the best of our botanical experts. The remarks which Dr. Buchanan White makes upon specimens of *Salix repens* might be applied with equal force to a good deal of what is sent out from time to time in the *Fasciculi* of both clubs. He says (Exchange Club Report, p. 385):—

‘In putting my pen through the varietal names of some *repens* forms, I do not wish to be taken as meaning that these var. names have not been correctly applied—so far as they are worth anything—by the sender of the specimens. All I mean is that in such polymorphic species the perpetuation of names for varieties is worse than useless—it is a hindrance to study. British Willows would have been much better understood long ago if they had not been overloaded with varietal names, in many cases founded on single individual bushes.’

It is true that Mr. Linton, than whom there are few more patient and diligent botanists, in the same paragraph takes a different view, but his citation of the recent study of *Hieracia* does not make one the more sanguine of what seems to him ‘success.’

The number of plants recorded in both reports is somewhat less than in former years, but the older club, as usual, has outstripped considerably its younger ally, and in Mr. G. Claridge Druce it has the advantage of a gentleman who has added to the duties of a distributor the acumen and research of an experienced student. A large part of his report is made up not only of his own records, but his own remarks.

Mr. Reader, the distributor of the Watson Club, has confined himself to the much briefer notes of his referees.

Of course the doctors have differed; for example, *Agropyron pungens* R. & S. var. *littorale* (Reichb.), is passed by Mr. Druce.

Specimens with the same label are said in the sister report, on the authority of Professor Haekel, to be only *A. repens* Beauv.

Ceterach officinarum Willd. var. *Crenatrum* Milde., also passed by Mr. Druce, is repudiated by Mr. Bennett as referee of the Watson Club.

These, however, are trifles. Of more substantial interest are the New County Records. The most important of these are—

Funaria confusa Jord., for Berkshire.

Silene maritima Wirti., for S.W. Lancashire.

Corion medium N. E. Br. (= *Buda media* Dumort.), for Berkshire.

Rubus erythrinus Genev., for Shropshire.

Rubus podophyllus P. J. Müll., for Denbigh.

Rubus fusco-ater Wahl., for S. Derby.

Doronicum Pardalianches L., for Berkshire (but naturalised only).

Crepis biennis L., for Northamptonshire.

Hypochæris glabra L., for S.E. York.

Nitella mucronata Kutz., for Oxford.

These are all from the report of the older club; the Watson Club Report does not appear to note any new records.

Mr. Druce has some interesting and lengthy notes on varieties of *Arenaria serpyllifolia* L. and *Sagina apetala* L. (one of the latter new to Great Britain, and hitherto confined to a small district in Spain), and also some remarks on the hybridity of *Linaria repens* and *vulgaris*, all of which suggest cautions for collectors given to dogmatic nomenclature.

It is much to be regretted that so few contributions appear in either report from the counties in which our readers are specially interested. Whatever the causes may be, the north of England does not produce, either in numbers or experience, such students of botany as seem to be developed in the south. The contributors to both reports from the northern counties may be reckoned on one hand, nor are the contributions of exceptional interest.

From Yorkshire Mr. Wheldon sends quite a curious list of aliens gathered in the neighbourhood of York. *Sisymbrium pannonicum* Jacq., *Malva niceensis* All., *Trigonella polycerata* L., *Medicago apiculata* Willd., *Melilotus cæruleus* L., *M. paniflorus* Lamk., *Lythrum hyssopifolium* L., *Plantago arenaria* Waldst. & Kit., *Rumex dentatus* Camp., *Asphodelus fistulosus* L., and *Setaria glauca* Beauv. remind us of the strange gatherings we used to get in old days on the ballast hills of our northern ports.

The other Yorkshire records are of no great interest except that of *Hypochæris glabra* L., already quoted as new to this county.

The Roses, which are almost entirely neglected by the contributors of the older club, have a fair place among Watsonians. Messrs. Hall and Colton send a considerable number from Yorkshire, but almost exclusively forms already well known. *Hieracium vulgatum* Fr. var. *rubescens* Backh., from Scaleber, and *H. angustum* Lindeb., from 'Teesdale' (? co. Durham), should encourage others besides Mr. Wheldon to look for local Hawkweeds.

From Lancashire (Walton) we get *Erysimum perfoliatum* Crantz, of course only a weed of cultivation, and *Lycopersicum esculentum* Mönch., at Aintree, also as an outcast.

The Southport form of *Viola Curtisii* is named by Mr. J. G. Baker as *V. sabulosa*. This should be looked for on some of our north-east bents. The writer has gathered it several years on the Ross links, near Belford. The same contributor, Mr. Wheldon, sends *Carex extensa* Good., and Mr. C. Bailey contributes interesting forms of *Agrostis alba* L., also from Southport.

Cheshire records are even scantier, as we only note *Sisymbrium repandum* L. (a ballast alien), from Birkenhead, *Veronica scutellata* L. var. *villosa* Schum., from Edgegreen near Malpas, and the aristate form of *Agrostis vulgaris* With., from Delamere.

The four other northern counties seem to be absolutely unrepresented. This is not to our credit. It is much to be desired that though, perhaps, the pulse of life beats faster, and the busy lives of clergy and professional men, from less leisure than many of our southern friends can secure, a keener interest should be taken in one of the most innocent, most healthful, of recreations, and one in which the wisest of monarchs was not ashamed to be known as an expert, or from which the Greatest of Teachers did not hesitate to draw lessons of the deepest truth.—H. E. Fox.

NOTES AND NEWS.

Among the new members of the Council of the Royal Society, elected on St. Andrew's Day, we note the names of Prof. A. H. Green and Prof. J. Burdon Sanderson.

The vacancy in the Council of the Linnean Society of London caused by the lamented decease of Mr. George Brook, was filled up on the 2nd November by the election of Mr. Henry Seebohm.

In the November number of the 'Zoologist,' Mr. Miller Christy, F.L.S., gives the outline of a scheme for mapping the geographical distribution of Vertebrate Animals throughout the world, which will involve an immense amount of trouble and research, but which if carried out accurately and thoroughly, would be of considerable utility, for there can be no doubt that the graphic method conveys at a glance much more to the eye than any amount of reading statements of range. The paper is well worthy of attention from naturalists interested in so fascinating a subject as geographical distribution.

THE BOTANY OF APPLEBY AND DISTRICT.

R. E. LEACH, M.A., F.L.S., F.G.S.,

Appleby School, Westmorland.

WHEN I came to Appleby at the beginning of the year 1892, I could find no information about the flora of the neighbourhood except the localities of two plants recorded in Mr. Baker's 'Flora of the Lake District.' I have therefore thought it worth while to note down what plants I have found, in the hope that my list may be of service to other botanists. All the plants recorded have been noticed in 1892 or 1893.

I have derived very great assistance from Miss M. Heelis, and without her help my list would have been very much smaller.

To Mr. J. G. Baker I owe my best thanks for his kindness in naming difficult plants.

The country which has been investigated lies almost entirely in the valley of the Eden; a few localities on the Pennine chain are given, but want of time has prevented me from going as far afield as I could wish.

The three following—*Galium ochroleucum*, *Crepis hieracioides*, *Eriophorum latifolium*—are not recorded in the flora of the Lake District; and *Stellaria glauca*, *Cerastium arvense*, *Geranium pyrenaicum*, *Ænanthe fistulosa*, *Filago minima*, *Veronica hederæfolia*, *Salix rubra*, *Scirpus sylvaticus*, and *Bromus erectus* are not recorded for the county of Westmorland.

It may be of interest to point out some good botanical excursions from Appleby.

If the Warcop road be taken, before reaching Bongate *Turritis glabra* may be found; on or near Brackenber Moor I have found *Ranunculus lenormandi*, *Cerastium arvense*, *Spergularia rubra*, *Erodium cicutarium*, *Ornithopus perpusillus*, *Carduus nutans*, and *Filago minima*.

On the railway-bank near Sandford Moss, *Galium verum*, *Galium mollugo*, and the hybrid *G. ochroleucum* gladden the eye, while in the moss itself *Genista anglica*, *Drosera rotundifolia*, *Eriophorum latifolium*, *Cladium Mariscus*, *Schœnus nigricans*, and *Blysmus compressus* may be met with.

Another good excursion is to Burrells, where we have found *Geranium columbinum*, *Malva sylvestris*, *Euonymus europæus*, *Hippo-*

crepis comosa, *Rosa spinosissima*, *Hippuris vulgaris*, *Scabiosa columbaria*, *Origanum vulgare*, *Polygonum viviparum*, *Neottia nidus-avis*, *Orchis ustulata*, *Orchis latifolia*, *Scirpus sylvaticus*, and *Carex paludosa*.

In the moss at Temple Sowerby, *Ranunculus lingua*, *Nasturtium terrestre*, *Stellaria glauca*, *Rhamnus Frangula*, *Cœnanthe fistulosa*, and *Scutellaria galericulata* occur.

If, however, the botanist wishes to have an easy day, he may find many good specimens close to the town of Appleby. On the Midland Railway banks, near Battlebarrow, *Geranium pyrenaicum* and *Picris hieracioides* grow. In the school garden *Veronica hederæfolia* and *Plantago maritima*—alas, not first found by me!—and in the school playground *Barbarea vulgaris* and *Botrychium lunaria*, are to be met with.

Near the sands I have found *Chelidonium majus* and *Reseda luteola*, while in the river Eden *Ranunculus fluitans* is plentiful.

On the Banks and near Whirly Lum one may light upon *Trollius europæus*, *Epipactis latifolia*, *Orchis ustulata*, *Habenaria viridis* and *H. bifolia*, and several good willows.

If the botanist wends his way up the river-side above the town he may be rewarded with *Gagea lutea* or *Chrysosplenium alternifolium*.

In the following list the orders *Juncaceæ*, etc., are not included, as I have not yet had time to study them; what few rarities have been found I have already mentioned.

Thalictrum minus L. var. **montanum** Wallr. Above Dufton and Knock (R. E. Leach). Asby, High Cup Nick (Miss M. Heelis).

Anemone nemorosa L.

Ranunculus aquatilis L.

Ranunculus fluitans Lam. In the River Eden at Appleby (R. E. Leach).

Ranunculus Lenormandi F. Schultz. Brackenber Moor (Miss M. Heelis).

Ranunculus hederaceus L. **R. Ficaria** L.

Ranunculus Flammula L.

Ranunculus Lingua L. Temple Sowerby Moss (Miss M. Heelis).

Ranunculus auricomus L. **R. acris** L.

Ranunculus repens L. **R. bulbosus** L.

Caltha palustris L.

Trollius europæus L. Flakebridge (R. E. Leach); near the Banks (R. E. Leach).

Aquilegia vulgaris L. Side of railway between Appleby and Warcop (R. E. Leach); Asby Road, near Rutter (R. E. Leach); Burrells (Miss M. Heelis).

- Aconitum Napellus** L. Side of stream near Rutter (Miss M. Heelis).
- Papaver Rhœas** L.
- Chelidonium majus** L. In a hedge near the Sands, Appleby (R. E. Leach); near Burrells (Miss M. Heelis).
- Corydalis lutea** DC. Wall at Long Marton (Miss M. Heelis).
- Fumaria capreolata** L.
- Fumaria officinalis** L. In school garden and near Moresby (R. E. Leach); near Flakebridge (Miss M. Heelis).
- Thlaspi alpestre** L. High Cup Nick (R. E. Leach).
- Capsella Bursa-pastoris** Moench.
- Lepidium campestre** R. Br. Hook. On Midland Railway and near the Eden, Appleby (R. E. Leach).
- Cochlearia officinalis** L. var. **alpina**. High Cup Nick (R. E. Leach); River side, above Appleby (Miss M. Heelis).
- Draba incana** L. North side of Murton Pike and above Dufton (R. E. Leach).
- Draba verna** L.
- Cardamine amara** L. Ormside (R. E. Leach); Long Marton, etc. (Miss M. Heelis).
- Cardamine pratensis** L.
- Cardamine hirsuta** L. and **C. sylvatica** Link.
- Arabis thaliana** L. **A. hirsuta** R.Br.
- Turritis glabra** L. Bongate (Miss M. Heelis).
- Barbarea vulgaris** R. Br. Near the school, Appleby; Ormside, etc.
- Nasturtium officinale** R. Br.
- Nasturtium terrestre** R. Br. Temple Sowerby Moss (Miss M. Heelis).
- Sisymbrium officinale** Scop.
- Erysimum Alliaria** L.
- Brassica polymorpha** Syme.
- Sinapis arvensis** L.
- Sinapis alba** L. In a field near the School (R. E. Leach).
- Raphanus Raphanistrum** L.
- Reseda Luteola** L. Bank of the Eden, at Appleby (R. E. Leach).
- Helianthemum vulgare** Gært. Keisley; Burrells; Asby.
- Viola palustris** L.

- Viola odorata* L. Morresby; Island at Crackenthorpe (flowers white), etc.
- Viola hirta* L. Burrells, and near Ormside (R. E. Leach).
- Viola sylvatica* Fries.
- Viola tricolor* L. and var. **arvensis**.
- Viola lutea* Huds. Crosby Garrett (J. Rowlandson) and var. **amœna** on the Cross Fell range.
- Drosera rotundifolia* L. Sandford Moss, Brackenber Moor, etc.
- Polygala vulgaris* L.
- Silene inflata* Smith.
- Lychnis Flos-cuculi* L. **L. diurna** Sibth.
- Lychnis vespertina* Sibth.
- Lychnis Githago* Lam. Near Roman Road (Miss M. Heelis).
- Sagina procumbens* L.
- Sagina nodosa* E. Meyer. Sandford Moss (R. E. Leach); Kirkby Thore; Bolton, etc. (Miss M. Heelis).
- Spergula arvensis* L.
- Spergularia rubra* Fenzl. Brackenber Moor (Miss M. Heelis).
- Arenaria serpyllifolia* L. **A. verna** L. **A. trinervis** L.
- Stellaria nemorum* L. Dufton (R. E. Leach); Long Marton; and river-side above Appleby (Miss M. Heelis).
- Stellaria media* With. **S. Holostea** L.
- Stellaria glauca* With. Temple Sowerby Moss (Miss M. Heelis).
- Stellaria graminea* L. **S. uliginosa** Murr.
- Cerastium glomeratum* Thuill. **C. triviale** Link.
- Cerastium arvense* L. Wall near Brackenber Moor (Miss M. Heelis and R. E. Leach).
- Linum catharticum* L.
- Malva moschata* L. Warcop (R. E. Leach); near Kirkby Thore Station (R. E. Leach).
- Malva sylvestris* L. Near Burrells (R. E. Leach).
- Hypericum perforatum* L. **H. quadrangulum** L.
- Hypericum humifusum* L. **H. pulchrum** L.
- Hypericum hirsutum* L.
- Acer pseudo-platanus* L.
- Erodium cicutarium* Sm. Between Kirkby Thore and Temple Sowerby (Miss M. Heelis); Warcop Road and Ormside (R. E. Leach).
- Geranium sylvaticum* L. **G. pratense** L.

- Geranium pyrenaicum** L. Two places on Midland Railway banks (Miss Heelis and Miss M. Heelis).
- Geranium pusillum** L. Between Kirkby Thore and Temple Sowerby (R. E. Leach and Miss M. Heelis).
- Geranium molle** L. **G. dissectum** L.
- Geranium columbinum** L. Burrells (R. E. Leach).
- Geranium lucidum** L. **G. Robertianum** L.
- Geranium sanguineum** L. Near Asby (Miss M. Heelis).
- Oxalis Acetosella** L.
- Euonymus europæus** L. Two trees near Burrells (R. E. Leach).
- Rhamnus Frangula** L. Temple Sowerby Moss (Miss M. Heelis and R. E. Leach).
- Sarothamnus scoparius** Koch.
- Ulex europæus** L. **U. Gallii** Planch.
- Genista tinctoria** L.
- Genista anglica** L. Edge of Sandford Moss and near Flakebridge (R. E. Leach); Marton Park and Temple Sowerby Moss (Miss M. Heelis).
- Ononis arvensis** L.
- Anthyllis Vulneraria** L.
- Medicago lupulina** L.
- Trifolium repens** L. **T. pratense** L. **T. medium** L.
- Trifolium hybridum** L.
- Trifolium arvense** L. Long Marton Station (R. E. Leach).
- Trifolium procumbens** L. **T. minus** Relh.
- Lotus corniculatus** L. **L. major** Scop.
- Ornithopus perpusillus** L. Brackenber.
- Hippocrepis comosa** L. Burrells (R. E. Leach).
- Vicia Cracca** L. **V. sativa** L. **V. sepium** L.
- Vicia hirsuta** Koch.
- Lathyrus pratensis** L.
- Orobus tuberosus** L.
- Prunus spinosa** L. and var. **insititia**.
- Prunus Padus** L. **P. Avium** L.
- Spiræa Ulmaria** L.
- Geum urbanum** L. **G. intermedium**. **G. rivale** L.
- Potentilla anserina** L. **P. reptans** L.
- Potentilla Tormentilla** Schreb. **P. Fragariastrum** Ehrh.

Comarum palustre L.

Fragaria vesca L.

Rubus Idæus L. **R. rhamnifolius** W.N.

Rubus Kœhleri W.N. **R. corylifolius** Sm.

Rubus cæsius L. (I have not yet properly studied the fruticose *Rubi*.)

Rosa spinosissima L. **R. mollis** Smith.

Rosa tomentosa Smith.

Rosa canina L. The following varieties have been determined :—
lutetiana, sphaerica, dumalis, biserrata, urbica, arvatica, verticillacantha, subcristata, celerata.

Rosa arvensis Huds.

Agrimonia Eupatoria L.

Sanguisorba officinalis L.

Poterium Sanguisorba L. Burrells.

Alchemilla vulgaris L. **A. arvensis** L.

Cratægus Oxyacantha L.

Pyrus Malus L. **P. Aucuparia** Gærtn.

Epilobium angustifolium L. Above Dufton, High Cup Nick
(R. E. Leach).

Epilobium hirsutum L. **E. parviflorum** Schreb.

Epilobium montanum L. **E. palustre** L.

Epilobium obscurum Schreb.

Circaea lutetiana L.

Hippuris vulgaris L. Stream near Burrells (R. E. Leach).

Myriophyllum }
Callitriche } Species undetermined.

Lythrum Salicaria L. Between Ormside and Sandford Moss
(R. E. Leach); near Rutter and Kirkby Thore (Miss M. Heelis).

Montia fontana L.

Scleranthus annuus L. Warcop Road.

Ribes nigrum L. **R. rubrum** L. **R. Grossularia** L.

Sedum Rhodiola, DC. High Cup Nick (R. E. Leach).

Sedum Telephium L. var. **Fabaria**. Near Asby (R. E. Leach).

Sedum villosum L. High Cup Nick (R. E. Leach).

Sedum album L. Helbeck (Miss M. Heelis).

Sedum acre L.

Sempervivum tectorum. On roofs and garden walls.

Saxifraga stellaris L. On the Pennine Hills.

- Saxifraga nivalis* L. High Cup Nick (Miss M. Heelis).
Saxifraga granulata L. Temple Sowerby (Miss G. Heelis).
Saxifraga tridactylites L.
Saxifraga hypnoides L. Pennine hills.
Chrysosplenium oppositifolium L.
Chrysosplenium alternifolium L. Near river above Appleby
(Miss M. Heelis); Dufton (Miss G. Heelis).
Parnassia palustris L.
Adoxa Moschatellina L.
Hedera Helix L.
Hydrocotyle vulgaris L.
Sanicula europæa L.
Conium maculatum L.
Helosciadium nodiflorum Koch.
Helosciadium inundatum Koch. Asby Road (Miss M. Heelis).
Ægopodium Podagraria L. Near the School, Appleby.
Bunium flexuosum With.
Pimpinella Saxifraga L.
Sium angustifolium L. Brampton Crofts (Miss M. Heelis).
Œnanthe fistulosa L. Temple Sowerby Moss (R. E. Leach).
Æthusa Cynapium L.
Silaus pratensis Bess.
Angelica sylvestris L.
Heracleum Sphondylium L.
Daucus Carota L.
Torilis Anthriscus Gaertn.
Anthriscus sylvestris Hoffm.
Chærophyllum temulum L.
Myrrhis odorata Scop. Bewley Castle (R. E. Leach); Asby,
Brough (Miss M. Heelis).
Sambucus nigra L.
Viburnum Opulus L.
Lonicera Periclymenum L.
Galium verum L.
Galium verum L. var. *ochroleucum* Syme. Near Moresby
(Miss M. Heelis); Railway near Sandford Moss (R. E. Leach).
Galium cruciatum With. *G. palustre* L.
Galium uliginosum L. *G. saxatile* L. *G. Mollugo* L.
Galium sylvestre Poll. *G. Aparine* L.
Galium boreale L. Maize Beck.
Sherardia arvensis L.

- Asperula odorata* L.
Valeriana dioica L. *V. officinalis* L.
Valerianella olitoria Moench. Railway, Ormside (R. E. Leach);
 Colby (Miss M. Heelis); Temple Sowerby (Miss G. Heelis).
Scabiosa succisa L.
Scabiosa Columbaria L. Burrells; Dufton, etc.
Knautia arvensis Coult.
Tragopogon pratensis L.
Picris hieracioides L. Bank of Midland Railway, Appleby
 (Miss M. Heelis).
Leontodon hispidus L. *L. autumnalis* L.
Hypochæris radicata L.
Lactuca muralis Less.
Sonchus arvensis L. *S. asper* Hoffm.
Crepis hieracioides W.&K. Asby (R. E. Leach).
Crepis virens L. *C. paludosa* Moench.
Hieracium Pilosella L. *H. vulgatum* Fries.
Hieracium murorum L. Pennine hills; Asby; Burrells.
Hieracium anglicum Fries. High Cup Nick (R. E. Leach).
Hieracium crocatum Fries. Milburn (R. E. Leach).
Hieracium umbellatum L. Near Brampton Crofts (Miss M.
 Heelis).
Hieracium boreale Fries.
Taraxacum officinale Wigg.
Lapsana communis L.
Cichorium Intybus L. Side of turnip field near the School
 (R. E. Leach).
Arctium minus L.
Serratula tinctoria L. Moresby; Temple Sowerby Moss; and
 near Rutter, etc. (R. E. Leach).
Carduus nutans L. Brackenber (R. E. Leach and Miss
 M. Heelis).
Carduus crispus L. Kirkby Thore (Miss M. Heelis).
Carduus lanceolatus L. *C. palustris* L. *C. arvensis* Curt.
Carduus heterophyllus L. Flakebridge (Miss M. Heelis).
Carlina vulgaris L. Brackenber and Asby Scar (R. E. Leach).
Centaurea nigra L.
Centaurea Scabiosa L. Burrells (R. E. Leach); in several
 places below Appleby (Miss M. Heelis).
Bidens tripartita L. Long Marton (Miss M. Heelis).
Eupatorium cannabinum L.
Artemisia Absinthium L. Burton Hall (R. E. Leach).

- Artemisia vulgaris* L. Flakebridge and Fair Hill (Miss M. Heelis).
- Gnaphalium dioicum* L. Near Harbour Flatt (R. E. Leach).
- Gnaphalium sylvaticum* L. *G. uliginosum* L.
- Filago minima* Fries. Brackenber Moor and near Flakebridge (R. E. Leach).
- Filago germanica* L.
- Petasites vulgaris* Desf.
- Tussilago Farfara* L.
- Solidago virgaurea* L.
- Senecio vulgaris* L.
- Senecio Jacobæa* L. *S. aquaticus* Huds.
- Senecio sylvaticus* L. Hilton Road (Miss M. Heelis); near Ashbank (R. E. Leach).
- Bellis perennis* L.
- Chrysanthemum segetum* L. Near Warcop Road (R. E. Leach); between Kirkby Thore and Temple Sowerby (Miss M. Heelis).
- Chrysanthemum Leucanthemum* L.
- Pyrethrum Parthenium* Sm. A straggler.
- Pyrethrum inodorum* Sm.
- Tanacetum vulgare* L. Long Marton Station and near Bolton (Miss M. Heelis); near Sandford Moss (R. E. Leach).
- Anthemis arvensis* L.
- Achillea Ptarmica* L. *A. Millefolium* L.
- Campanula rotundifolia* L. *C. latifolia* L.
- Campanula glomerata* L. Much more plentiful on the south of the Eden than on the north.
- Jasione montana* L.
- Erica Tetralix* L. *E. cinerea* L.
- Calluna vulgaris* 'Salisb.'
- Vaccinium Myrtillus* L.
- Vaccinium Oxycoccus* L. Cattlemire Tarn; Temple Sowerby Moss (Miss M. Heelis).
- Pyrola minor* L. In two woods near Flakebridge (Miss M. Heelis and R. E. Leach).
- Ilex Aquifolium* L.
- Ligustrum vulgare* L. In hedges.
- Fraxinus excelsior* L.
- Gentiana Amarella* L. *G. campestris* L.
- Erythræa Centaurium* Pers.
- Menyanthes trifoliata* L.

- Convolvulus sepium* L.
Hyoscyamus niger L. Battlebarrow (Miss M. Heelis).
Solanum Dulcamara L.
Verbascum Thapsus L. Warcop Station (R. E. Leach); near
 Brackenber (Miss M. Heelis).
Veronica arvensis L. *V. serpyllifolia* L. *V. scutellata* L.
Veronica Anagallis L. *V. Beccabunga* L.
Veronica officinalis L. *V. Chamædrys* L.
Veronica hederæfolia L. School Garden and near Castle Bank,
 Appleby (R. E. Leach); Kirkby Thore (Miss M. Heelis).
Veronica montana L. Burrells (R. E. Leach).
Veronica agrestis L. *V. Buxbaumii* Ten.
Bartsia Odontites Huds.
Euphrasia officinalis L.
Rhinanthus crista-galli L.
Melampyrum pratense L.
Pedicularis palustris L. *P. sylvatica* L.
Scrophularia nodosa L.
Digitalis purpurea L.
Linaria Cymbalaria Mill. Old walls.
Linaria vulgaris Mill. Warcop (Miss M. Heelis).
Linaria minor Desf. Warcop Station (R. E. Leach).
Mentha hirsuta L. *M. sativa* L. *M. arvensis* L.
Thymus Serpyllum L.
Origanum vulgare L.
Calamintha Acinos Clairv. Long Marton Station (R. E. Leach).
Calamintha Clinopodium Spenn.
Teucrium Scorodonia L.
Ajuga reptans L.
Lamium album L. *L. purpureum* L.
Galeopsis Tetrahit L. *G. versicolor* Curt.
Stachys Betonica Benth. *S. palustris* L. *S. sylvatica* L.
Nepeta Glechoma Benth.
Prunella vulgaris L.
Scutellaria galericulata L. Temple Sowerby Moss (Miss M.
 Heelis).
Myosotis palustris With. *M. repens* D. Don.
Myosotis cæspitosa Schultz. *M. sylvatica* Ehrh.
Myosotis arvensis Hoffm. *M. collina* Hoffm.
Myosotis versicolor Lehm.
Pinguicula vulgaris L.

Primula vulgaris Huds.

Primula veris L., and *P. variabilis* Goupil. *P. farinosa* L.

Lysimachia Nummularia L. River-side below Appleby (P. Matthews).

Lysimachia nemorum L. Flakebridge (R. E. Leach).

Anagallis arvensis L.

Plantago major L. *P. media* L. *P. lanceolata* L.

Plantago maritima L. School garden, Appleby (Miss M. Heelis).

Chenopodium album L. *C. Bonus-Henricus* L.

Atriplex hastata L.

Polygonum Bistorta L.

Polygonum viviparum L. Near Harbour Flatt; Burrells (R. E. Leach).

Polygonum amphibium L. *P. lapathifolium* L.

Polygonum Persicaria L. *P. Hydropiper* L.

Polygonum aviculare L. *P. convolvulus* L.

Rumex crispus L. *R. obtusifolius* L.

Rumex nemorosus Schrad.

Rumex Acetosa L. *R. Acetosella* L.

Empetrum nigrum L.

Euphorbia Helioscopia L. *E. Peplus* L.

Euphorbia exigua L. Near Bolton (Miss M. Heelis).

Mercurialis perennis L.

Urtica urens L. *U. dioica* L.

Ulmus montana Smith.

Quercus Robur L.

Fagus sylvatica L.

Corylus Avellana L.

Alnus glutinosa L.

Betula alba L.

Populus tremula L. *P. nigra* L.

Salix pentandra L. *S. fragilis* L. *S. alba* L.

Salix triandra L. A form of this with 4-5 stamens in several places. Planted?

Salix purpurea L. Banks of the Eden, etc.

Salix rubra Huds. Banks of the Eden.

Salix viminalis L. *S. Smithiana* Willd.

Salix cinerea L. vars. *aquatica* and *oleifolia*.

Salix aurita L. *S. caprea* L. *S. repens* L.

- Salix nigricans* Fries. The Banks ; Appleby ; Temple Sowerby Moss, etc. (R. E. Leach).
- Salix phylicifolia* L. Hilton (Miss M. Heelis and R. E. Leach).
- Myrica Gale* L. Temple Sowerby Moss ; Sandford Moss.
- Pinus sylvestris* L. Frequently planted.
- Juniperus communis* L. Swindale Beck.
- Neottia Nidus-avis* Rich. Burrells (R. E. Leach).
- Listera ovata* Br.
- Epipactis latifolia* All. The Banks, Appleby, and Hoff (R. E. Leach).
- Orchis ustulata* L. Burrells (L. Leach) ; Whirly Lum (R. E. Leach).
- Orchis latifolia* L. Kirkby Thore (Miss M. Heelis) ; near Copeland Beck (R. E. Leach).
- Orchis mascula* L. *O. maculata* L.
- Gymnadenia conopsea* Br.
- Habenaria bifolia* Br. *H. chlorantha* Bab.
- Habenaria viridis* Br. Near Flakebridge, etc. (R. E. Leach).
- Iris Pseudacorus* L.
- Galanthus nivalis* L. Island near Chapel Wood ; Flakebridge.
- Allium Scorodoprasum* L. Between Appleby and Burrells (W. E. Crowfoot).
- Allium oleraceum* L. Near Bolton (Miss M. Heelis).
- Allium ursinum* L.
- Gagea lutea* Ker. River-side above Appleby (Miss M. Heelis).
- Hyacinthus nonscriptus* L.
- Narthecium ossifragum* L.
- Convallaria majalis* L. Helbeck.
- Paris quadrifolia* L.
- Colchicum autumnale* L. Near Asby (Miss Preston).
- Alisma Plantago* L.
- Triglochin palustre* L.
- Potamogeton densus* L. *P. crispus* L. *P. natans* L.
- Lemna minor* L.
- Arum maculatum* L.
- Sparganium minimum* Fries. Near road to Asby (Miss M. Heelis).
- Sparganium ramosum* Huds.
- Typha latifolia* L. Near Colby.

BIRD-NOTES FROM THE HUMBER DISTRICT.

JOHN CORDEAUX, M.B.O.U.,
Great Cotes House, R.S.O., Lincoln.

(Continued from page 362, 1893.)

Calcarius lapponicus (L.). Lapland Bunting. Mr. Matthew Bailey has already recorded in the 'Naturalist' for December the occurrence of a flock of Lapland Buntings at Flamborough. These appear to have arrived about the second week in November, about the time when the Snow Buntings came in such immense numbers. On the 21st, when, in company with Mr. Bailey, I was most fortunate in finding the flock in some barley-stubble swarming with many sorts of small birds. The Buntings, which kept well together, were feeding on the ground, and on our approach took in a body to the side and top of a rough unkept fence, but almost immediately began to drop by two and three together to the stubble and commence feeding. This was often repeated, both then and subsequently when I again visited the field. There were a few Linnets mixed with the flock, and three very bright Siskins. They numbered altogether over one hundred, and the Lapland Buntings had received a considerable accession to their number when I visited the field the second time. The flock was a mixed one of males and females, and probably also young birds of the year. In their habits they are like Reed Buntings or Tree Sparrows, and might easily be mistaken for either of these. On the 22nd they had become very wild, and mixed with Larks and other small birds, so that I quite failed to get near them with a gun. They did not appear to mix freely with Snow Buntings, their habits being quite dissimilar, and keeping much to the vicinity of bushes and hedgerows, but latterly scattered far and wide. Mr. Bailey said that on their first arrival—and this was also the case when I first saw them—they were fairly tolerant of approach, but after the 21st, when there was a sharp frost and a recurrence of very rough weather, they became extremely wild. On the 21st of December Mr. Haigh met with a flock near the Lincolnshire coast at North Cotes, but so wild he could not shoot any. On the following day he killed four at a shot, all males. There were twenty or thirty together, but always mixed with Larks, so that it was difficult to estimate their number. On the 23rd he saw the flock again and several scattered birds, and got three, one presumably a female. They appear, he says, to frequent grasslands, young wheat, and, when

driven, the salt fitties. On one occasion he saw them on a hedge. He has seen odd Snow Buntings with them. They were, however, almost always associated with Larks, both rising together and keeping in company. They also mix with Greenfinches, Reed Buntings, and Twites.

Acanthis linaria (L.). **Mealy Redpole.** November 21st. I saw several to-day in the fields nearest my lodgings at Flamborough, some with very white rumps.

Chiffchaff? November 21st, wind N., calm, very bright day. Mr. Bailey and I saw a 'leaf warbler,' like a Chiffchaff, hawking for insects on the shelter-side of a plantation. It was a warm, sheltered hollow, with a high fence and Scotch firs in the background. This little bird, which was very tame, was not a Chiffchaff, for it had a very distinct wing-bar, legs reddish brown, a superciliary stripe, upper parts brownish, with quills and rectrices edged with greenish yellow, under parts nearly white.

Puffinus griseus (J. F. Gmelin). **Sooty Shearwater.** November 21st. There was a large dark Shearwater on the wing, close in shore near the Point. I had the glass on it for some time, and marked its extremely graceful, easy flight, just skimming the heavy seas. It was uniformly dark-coloured above and below, and probably referable to this species.

Sterna. Tern. November 19th. During the terrific gale from the N. and N.E. (which, the fishermen say, was the worst they remember from this quarter at Flamborough) several Terns were seen off the Point. A most unusually late occurrence.

Carduelis elegans (Stephens). **Goldfinch.** In the fortnight I was at Flamborough a small flock of about a dozen came regularly into the grass-field opposite the windows to one particular spot. The attraction, I found, was some thousands of the ripe heads of thistles, the screenings from the threshing machine spread on the land.

Gulls. During the storm of the 18th and 19th immense numbers of Gulls, Guillemots (*Lomvia troile*), Razorbills (*Alca torda*), and various Divers came in from the sea and collected in Bridlington Bay on the sheltered side of the headland. The fishermen say that there were several Glaucous and Iceland Gulls (*Larus glaucus* and *L. leucopterus*). On December 1st I saw an immature Iceland Gull in the mottled yellowish-brown plumage at the north landing-place, also many others of various sorts, including both old and young Kittiwakes (*Rissa tridactyla*) and a few immature brown-headed Gulls in most beautiful plumage.

- Phylloscopus trochilus** (L.). **Willow Warbler.** November 27th. I watched one to-day with the glass foraging amongst some curly-greens in one of the coastguard gardens near Lloyds' signal station. It is an unusually late occurrence, but it was an unmistakeable Willow Wren.
- Anthus obscurus** (Latham). **Rock Pipit.** Very plentiful, and in pairs, on both sides of the headland. These, I satisfied myself, are the English race, resident here throughout the year, and not the Scandinavian form so frequently obtained on the coast further south in the autumn.
- Pratincola rubicola** (L.). **Stonechat.** Several seen, chiefly on the coast below the south cliff.
- Procellaria pelagica** (L.). **Storm Petrel.** November 27th. I picked up a wave-cast Petrel on the south shore at Flamborough.
- Tringa canutus** (L.). **Knot.** November 23rd. One, which I got in the flesh, was shot to-day near the south landing-place at Flamborough. It was a very interesting example, as it still retained much of its breeding dress, the upper parts blackish, the edges of its feathers marked with grey, and the under parts a faded chestnut. The skin I sent to Professor Newton, of Cambridge.
- Phalacrocorax graculus** (L.). **Shag.** November 22nd. One was killed at Kilnsea with a stick by a woman. It had a large eel in its mouth, partly swallowed.
- Mergulus alle** (L.). **Little Auk.** During the gales in the latter part of November three were picked up inland at Flamborough, and several also were seen close in-shore.
- Columba livia** and **C. œnas.** **Rock Dove** and **Stock Dove.** I noticed several flocks of both in fields at Flamborough feeding on young clovers. In the great gale, on 18th and 19th, great numbers were blown across the headland to the south side, and being unable to face the storm and get down to their cotes in the caves in the north cliffs, many perished. One man told me he had picked up thirteen.
- Otocorys alpestris** (L.). **Shore Lark.** November 28th. A flock was reported to have been seen this morning in a stubble at the edge of the cliff on the south side of the headland. The person who saw them had shot several in the same locality in 1892.

Alauda arborea (L.). **Wood Lark.** Mr. Haigh writes that he had seen a small party of four in a stubble-field near the park at Grainsby Hall, and had shot one. He thinks he has seen them before in winter, but had never obtained an example. They were easily distinguishable at a very considerable distance from a flock of about fifty larks, which they joined on being put up, both by their different flight and short tail.

Sylvia nisoria (Bechstein). **Barred Warbler.** The example shot near Kilnsea, on November 13th, as already recorded by me in the 'Naturalist,' is now in the collection of Mr. J. H. Gurney, of Keswick Hall, Norwich.

Sula bassana (L.). **Gannet.** I saw several off the headland at Flamborough in the last fortnight in November, and many were reported at sea by the fishermen. On January 2nd Mr. Hewetson, junr., saw from twenty to thirty flying up and down the Humber side near the Spurn. This they did all the afternoon. Some few were in the dark plumage.

In Mr. Whitlock's interesting 'Bird-Notes from the Mid-Trent Valley in 1893' he refers to a paper written by me on 'The Migration of the Yellow Wagtail,' which appeared in the 'Zoologist,' 1892, pp. 389-391, and suggests that the flocks of this species seen coming in direct from the *East*—that is, the sea—to the Lincolnshire coast may have been such as had been travelling down the Holderness coast. This is certainly not the case, as all flocks of birds passing from the Spurn towards Lincolnshire move from nearly north to south, or directly across the mouth of the Humber. Flocks observed coming in from N.E., E., or S.E., *come in from the sea*, a fact which I have constantly had opportunities of verifying in the autumn, both on sea and land, for well nigh forty years.

As a rule, the small summer visitants to northern and central Europe, such of them as reach the east coast of Great Britain in the autumn passage, do not pass inland or cross the country, but follow the coast-line to the south. This is the case with the Ring Ouzels, Wheatears, Redstarts, Willow Wrens, Pied Flycatchers, the subject of this notice, and a great many other small species far too numerous to mention; and so much is this the rule that an observer residing a few miles inland will be ignorant of the immense movement going forward within so short a distance.

That there is a line of migration, more or less distinctly marked, for our winter visitors passing inland along the Trent valley is highly

probable, but this Humber, Trent, and Severn route is certainly not, as Mr. Whitlock seems to suppose, the line followed by those vast multitudes of small summer birds which make the land north and south of the Humber in the latter summer and autumn.

As a sequel to the note in the 'Naturalist,' p. 15, on some of the incidents of the great gale, or rather succession of gales, in the last fortnight in November, I have been told by Mr. Bailey that, since I left on December 2nd, hundreds of Cuttle Fish have been cast on shore nearly every tide, the fishermen collecting them for bait, which, for their purpose, much surpasses any other sort. Mr. Haigh says that at North Cotes on the Lincolnshire coast thousands of sea urchins were washed up. All these incidents prove how completely the sea bottom must have been disturbed and stirred up. The take of fish in December has been extraordinary, almost more than can be sold at any price by the Flamborough fishermen.

NOTES—ORNITHOLOGY.

Goosander at Flamborough.—A Goosander (*Mergus mergansa*) was shot the other day at Flamborough.—MATTHEW BAILEY, Flamborough, Jan. 13th, 1894.

Date of Arrival of Yellow Wagtail in West Yorkshire.—As Mr. Whitlock asks for notes about the arrival of *Motacilla raii*, I may say that here in Upper Ribblesdale (Settle) it arrives about the 11th to the 15th of April, proceeding northwards up the river; and that it nests here in considerable abundance.—EDWARD PEAKE, Settle, January 8th, 1894.

Occurrence of the Bittern near Hull.—At a recent meeting of the Hull Scientific Club, Mr. J. Hame reported he had in his possession a fine example of the Bittern (*Botaurus stellaris*), which was taken near a brick-pond on the western side of the town in November last. On examination, its stomach was found to contain the elytra and other fragmentary remains of beetles, and also entire bodies of the Water Boatman (*Notonecta glauca*).—F. W. FIERKE, Hon. Sec., Hull, 16th January, 1894.

The Newark Cormorant.—Most people thought that the Cormorant which had during the day taken sanctuary on the cross at the top of Newark Church would have been allowed to live, but it has unhappily been shot by the game-keeper of Mr. Duncombe, who resides at Winthorpe, near Newark. The bird had been seen there for some months, departing at approach of evening for its fishing quarters, the river Trent. Before alighting on the cross it made two or three circles at a great height, to the great amusement of the townspeople, who are now loudly deprecating the deed of shooting it.—HENRY PAYNE, M.D., Newhill Hall, West Melton, Rotherham, Jan. 19th, 1894.

NOTE—LEPIDOPTERA.

Lepidoptera near Derby.—At the last meeting of the Derby and District Natural History Society, Mr. George Pike exhibited a splendid specimen of *Dasypolia templi* he had captured at light. This is only the third instance of this insect being captured in this neighbourhood that I can hear of. The Secretary exhibited a black specimen of *Oporabia dilutata*, the only markings being a small white <-like mark in the centre of the fore wings where the nervures join; also dark forms of *Epunda viminalis*; and an almost black form of *Luperina testacea*, and dark forms of several other species.—JOHN HILL, Little Eaton, Derby, 30th December, 1893.

Feb. 1894.

BRITISH FUNGUS FLORA.

British Fungus Flora, by GEORGE MASSEE. Vol. III. George Bell & Sons, London, 1893.

ALTHOUGH it was inferred at the outset that this important work would consist of three volumes, it was scarcely to be expected that it would contain all the British species, considering the rapid rate at which they have multiplied of late years. The first half of the present volume completes the Basidiomycetes, and deals ably with *Lactarius*, *Russula*, and other white-spored genera. The same care is manifest as in the previous volumes, and, so far as this group is concerned, the mycologist has every reason to be satisfied. The latter half of the work is devoted to the Hyphomycetes, and this fact will make Vol. iii especially welcome to the mycological student, as so little has been published concerning British 'moulds,' since Dr. Cooke's 'Handbook of British Fungi' made its appearance more than twenty years ago. It is evident that the subject has been considerably advanced during that interval, and Mr. Massee has rendered a real service to botanical science in the way in which he has dealt with these interesting organisms. Practically, he has opened out a new subject for the microscopic botanist, and one teeming with beauty. To northern botanists who are desirous of taking up a truly interesting study, and one affording abundant scope for original work, few subjects will repay them better than the British Hyphomycetes. Presenting a field almost untrodden, so far as the North of England is concerned, it contains some of the prettiest objects in Nature, which, moreover, can be found almost anywhere.

The arrangement followed is that of Saccardo in 'Sylloge Fungorum,' and the genera number about 150, each of which is illustrated by a well-executed drawing—a valuable aid in the determination of species. No few of these so-called species are doubtless forms of more highly developed fungi, particularly of the Ascomycetes, and where this is known its relationship is indicated. We make no doubt that this volume will be highly appreciated by all mycologists, and the author is deserving of the highest praise. As regards mycological literature, the British student never before was in a happier position. A supplementary volume, completing the work, is announced to be issued shortly.—H. T. S.

NOTES AND NEWS.

We have received from Mr. W. Van der Heyden, M.D., of Yokohama, Japan, a pamphlet giving a 'Description of a newly-devised Sanitary Building,' apparently intended for a country as subject to earthquakes as Japan is, though the writer speaks of it as adaptable for all climates and part of a scheme for the rejuvenation of the earth.

In Memoriam.

ALFRED MILNES MARSHALL.

THOSE who knew the late Prof. Marshall well could not bring themselves to believe the first newspaper reports which gave out that on December 31st, 1893, he had met his death by an accident on Scafell. He was so careful and dexterous a mountaineer that his friends thought it impossible for him to have made a serious mistake on so easy a mountain. Many of us had seen him only a few days before full of life and strength, and it seemed incredible that he should be lying dead.

But the incredible story turned out true, and with a deep sense of loss we have now to go on as best we can with the work of various kinds to which his activity and good sense seemed essential. Biology and the Victoria University and the Owens College are the poorer for his sudden death.

The personal history of a student is seldom eventful, and Marshall's story is in the main a story of straightforward, hard work. He was born in Birmingham in 1852. After graduating in science in the University of London, he proceeded to St. John's College, Cambridge, where he came under the personal influence of the late F. M. Balfour, who was his guide to Morphology and Embryology. I have been told that as an undergraduate Marshall was noticed for his appearance of extreme youth, a peculiarity which lasted for several years. A more useful feature was the early development of that exact and full memory which proved so valuable to his mature studies. It has been said that he never had to look up a word in the dictionary a second time. This is an exaggeration, for his memory, though full and accurate, was not faultless. He took a brilliant degree, winning the first place in the Natural Science tripos of 1874. Next year he worked for five months at the Naples Zoological Station. He was subsequently elected fellow of his college. Having studied medicine at St. Bartholomew's Hospital, Marshall was preparing for practice, when his election to the newly-created chair of Zoology in the Owens College gave him the right opening. He was admitted to the Royal Society in 1885, and served on the Council in 1891-2.

Marshall was before everything else a Zoologist, attending to morphology and development in preference to other sides of his subject. Trained in a school which valued accuracy of detail, and naturally prone to that sort of scepticism (the *thätige Skepsis* of

Goëthe) which insists upon coming to close quarters with facts, he was exceptionally fit to attack difficult questions which demanded plenty of hard work and a candid mind. His practice, especially in the last and most scientifically valuable part of his life, was to see for himself what the facts were, then to draw the structures, and finally to prepare a technical and word-sparing description. Speculative matter is uncommon in his published papers, and what there is he would not have considered as of lasting value. He became weaker (as all but the very greatest minds do) when he got away from his own observation and experience. Such mental bias, joined to a real love of hard work, brings speedy success, and Marshall shot up among his contemporaries with startling rapidity. High as his gifts were, they did not incline him to attempt the greatest work in Biology, such as that of Baer or Darwin. I imagine that Marshall would have recognised this cheerfully, and would have maintained that there is one method for men of genius and another for ordinary workers. That he would have insisted upon placing himself in the lower class I know for a fact.

His scientific publications were numerous and valuable. We have among them several highly special memoirs, such as his Segmental Value of the Cranial Nerves, his four papers on the Pennatulidæ, and his Nervous System of Antedon. The first of these won him a place of distinction among English biologists before he was thirty years of age. The Vertebrate Embryology, published last year, includes much of his best work besides an inevitably large compilation of other people's results. 'Compilation' must not be taken to mean mere working from books. Marshall had in this work taken quite unusual pains to verify even those facts which he gave on another's authority.

He wrote also for elementary students. His little book on the Frog is a useful first manual, and the much more important Practical Zoology, prepared in association with Dr. C. H. Hurst, is an excellent course for elementary students, which is now widely known and valued. The two volumes of 'Studies from the Biological Laboratory of the Owens College,' edited, and to a considerable extent written, by Marshall, testify to the excellent work carried on at his suggestion. Vol. III. of the Studies was to have been published at Easter, 1894. The papers are nearly all ready, and the plates printed off. Marshall was latterly one of the assistant-editors of the 'Journal of Microscopical Science.'

At Leeds, in 1890, he presided over the Biological Section of the British Association, and delivered an address which was largely devoted to the exposition and enforcement of the Recapitulation

Theory. In 1892, he lectured before the Association on 'Animal Pedigrees.'

Contributions so extensive to the literature of his subject could only have been brought into less than twenty years by unflinching industry, especially when we consider how he loaded himself with College and University business.

Of his College work I have very little direct knowledge. I hear on all sides that he was eminently popular with his men, not because of the slightest tendency to laxity, but because he was straight-forward, very much in earnest, and yet conciliatory. His fondness for athletic exercises counted for a good deal in securing the good-will of his students. He was, I believe, in substance, though not in manner, a strict master and teacher. No one could be happy with him for long who did not share his passion for work.

Marshall was much liked outside the College as a popular lecturer, and I believe that his short courses were first-rate. His 'Animal Pedigrees,' the only popular lecture of his which I remember listening to, seemed to me by no means worthy of him.

He was an admirable man of business. Good sense, diligence, quickness, tact, cheerfulness, were all his. I cannot imagine a better secretary or a better chairman, and I have seen much of him in both capacities. A fearless, open-eyed man, he made his presence felt wherever he was, but in the course of several years of frequent intercourse I call to mind no single remark of his which had any flavour of arrogance or ill-nature.

The British Association meeting at Manchester in 1887 had Marshall for local secretary, and of the energy with which he worked that immense gathering, one token afterwards came under my eye. He copied or pasted into a large book every circular, printed scrap and minute of the multifarious business, adding notes for the benefit of future secretaries as to the greater or less success of every arrangement.

Among his pupils are to be reckoned several of the most active of the younger English biologists. Among the rest are Prof. Baldwin Spencer, Dr. John Beard, Dr. G. H. Fowler, Dr. A. Dendy, Mr. E. J. Bles, director of the Marine Biological Laboratory at Plymouth, and Prof. J. G. Adami. Some of these, though associated with Marshall in research, and to some extent at least under his direction, were not pupils in the ordinary sense of the word; a few indeed out of the list owed more to other teachers. Dr. C. H. Hurst, for many years Marshall's right-hand man, and joint author with him of the 'Practical Zoology,' has lately appeared in public as a vigorous critic of current Biological theories, among others of

that Recapitulation theory which Marshall specially advocated. I believe that there is nevertheless none of Marshall's friends who has a higher opinion of his scientific and professorial work.

The last good talk I had with Marshall was during a moorland walk last summer. He was in capital spirits, and full of the things he meant to do. Most of those things will never be done, or else will be done far worse than Marshall would have allowed. He was much in earnest to get certain things accomplished for Biology, for the University, and for some of his own men. They occupied his mind completely, and I noticed that he could not be drawn off to discuss any of the natural history problems which such a walk suggests. As long as we were going up-hill the slight exertion seemed to keep his thoughts bent to work, but when we had done our *Spitz*, as he liked to call this low, flat hill, he relaxed and talked about pictures. All the evening he was full of a new class-book, which would have been a great accession to the resources of schools of Zoology, but which remains unattempted.

Marshall's library was very characteristic. An excellent collection of zoological books, in admirable order, the reprints arranged with scrupulous care, and the manuscript titles as neat as letter-press—all this was just like the owner. I remember no literature, and there cannot have been much. Books of travel he greatly liked, and he accumulated large stores of photographs, especially of sculpture and architecture.

During term-time Marshall had very few amusements. He filled his days with work, and a glance at the water-colours which hung on his walls did instead of the novel or the theatre. The long vacation gave him the mountaineering in which he took such delight, and into this he threw himself with his full energy. In his last alpine season he ascended the Aiguille Dru and crossed the Matterhorn from the Italian to the Swiss side.

The twenty or thirty years of further research which might have been accomplished had Marshall's splendid industry and ever-growing knowledge been continued to the full term would have placed him very high among Zoologists. His career, though cut short possibly before he had quite attained his full power, was nevertheless honourable and useful. What he found to do he did, and he did it without sparing himself. He never claimed any credit that he had not fairly earned, and he never printed a line that he had not made as minutely accurate as he could. May it be long before his bright example is forgotten!

L. C. MIALL.

NEW LOCALITIES FOR PLANTS OF THE LAKE DISTRICT.

N. V. SIDGWICK.

Rugby.

THE letters *C*, *L*, *W*, prefixed to localities signify Cumberland, Lake Lancashire (or Furness), and Westmorland respectively. All observations made in 1893 unless otherwise specified.

Clematis vitalba. *W.* Hedge by the road-side below the South Cliff of Whitbarrow.

Thalictrum alpinum. *W.* Deepdale, at the foot of Hart Crag.

Thalictrum montanum. *W.* Farleton Knot, abundant. Dovedale, on the south branch of the stream. Deepdale, south branch of the stream. Cliffs on the south side of Grisedale, east of St. Sunday's Crag.

Anemone nemorosa. *W.* Ascends to 2,700 ft. on Helvellyn, above Red Tarn.

Aquilegia vulgaris. *W.* Hagg Wood, Arnside. Road-side near Beetham. Abundant in Silverdale Moss.

Corydalis claviculata. *L.* Near Yewdale Farm, Coniston (1888, 1891). *W.* Road-side in Patterdale, half mile below Brotherswater.

Cochlearia alpina. *L.* Red Dell Beck, Coniston, 1891. *W.* Ascends to 2,700 feet on Helvellyn above Red Tarn.

Arabis hirsuta. *W.* Dovedale.

Nasturtium terrestre. *W.* North bank of the Kent just above Foulshaw.

Reseda luteola. *W.* Quarry in Middlebarrow Wood, Arnside.

Helianthemum canum. *L.* Still abundant on the west face of Humphrey Head in 1893.

Silene acaulis. *W.* Deepdale (south branch), common by the side of the stream at about 1,500 feet.

Arenaria verna. *W.* Ascends to 2,700 feet on Helvellyn above Red Tarn.

Cerastium alpinum. *W.* Striding Edge Cliffs and face of Helvellyn, just north of them.

Malva moschata. *W.* Common about Sandside, Storth, etc. Railway embankment below Middlebarrow Wood.

- Hypericum androsæmum.** *L.* Shore of Coniston Lake below Brantwood, 1888. Streams near Atkinson Ground, Coniston Waterhead, 1891.
- Hypericum hirsutum.** *W.* Abundant in woods on the limestone near Milnthorpe and Arnside.
- Geranium sylvaticum.** *L.* In a ditch near Coniston Waterhead, 1891. *W.* Middlebarrow Wood, and Underlaid Wood, Arnside.
- Impatiens noli-me-tangere.** *L.* Stream east of Coniston Waterhead, 1888-1891.
- Euonymus europæus.** *W.* Lane near Whin Scar; and Slack Head near Beetham.
- Anthyllis vulneraria.** *W.* Railway embankment $\frac{1}{2}$ —1 mile south of Arnside; Slack Head.
- Melilotus officinalis.** *W.* Field between Arnside Tower and the railway. Shore just west of Humphrey Head.
- Trifolium fragiferum.** *W.* North shore of the Kent, just above Foulshaw.
- Hippocrepis comosa.** *W.* Glasgow Hill near Storth.
- Spiræa filipendula.** *W.* Fields between Haselslack and Silverdale Moss. Limestone pavement half mile south of Slack Head.
- Potentilla verna.** *W.* Cliffs of Humphrey Head. Road-side near Slack Head.
- Rubus saxatilis.** *W.* Wood near Storth.
- Epilobium angustifolium.** *C.* Dockray. *W.* Quarry in Middlebarrow Wood, Arnside.
- Hippuris vulgaris.** *W.* Ditch between the railway and the road about half-way between Sandside and Arnside.
- Sedum rhodiola.** *W.* Ghyls in Deepdale and Dovedale.
- Eryngium maritimum.** *L.* Foxfield, near the bridge over the Duddon, 1891.
- Apium graveolens.** *W.* Ditch on the south side of the road about half-way between Arnside and Sandside.
- Angelica sylvestris.** *W.* Ascends to 2,600 feet on the Striding Edge Cliffs.
- Heracleum sphondylium.** *W.* Ascends to 2,700 feet on Helvellyn above Red Tarn.
- Galium mollugo.** *L.* Hedge by the road-side between Coniston Waterhead Hotel and the Lake, 1891.

- Galium boreale.** *W.* Deepdale, south branch at about 1,200 ft.
- Centaurea cyanus.** *W.* Sandside; Haselslack.
- Erigeron acre.** *W.* Road-side west of Glasgow Hill, Storth.
- Tanacetum vulgare.** *W.* Field just above Sandside Station.
- Andromeda polifolia.** *W.* Foulshaw Moss.
- Veronica spicata.** *W.* Humphrey Head, west face. I only saw about six plants in 1893.
- Linaria minor.** *W.* On the railway at Carnforth Station, and also about half-mile south of Arnside.
- Verbena officinalis.** *W.* Cliffs of Arnside Knot.
- Lycopus europæus.** *W.* Foulshaw Moss.
- Origanum vulgare.** *W.* Road-side near Haverbrack. *L.* Shore of Coniston Lake, below Brantwood, 1891.
- Lamium amplexicaule.** *W.* Arnside.
- Scutellaria minor.** *L.* Wharton Tarn, Coniston, 1891.
- Lithospermum officinale.** *W.* Hedges between Whitbarrow and Gilpin Bridge, near Arnside; near Beetham.
- Symphytum tuberosum.** *L.* Shore of Coniston Lake, below Brantwood, 1891.
- Echium vulgare.** *W.* Quarry in Middlebarrow Wood.
- Salsola kali.** *C.* Seascale, abundant.
- Suæda maritima.** *W.* Arnside.
- Salicornia herbacea.** *W.* Arnside, Sandside. *L.* Foxfield, 1891. *C.* Seascale, 1891.
- Empetrum nigrum.** *W.* Common on Foulshaw Moss, at sea-level.
- Parietaria diffusa.** *W.* Shore at Arnside.
- Malaxis paludosa.** *W.* Boardale House, Patterdale.
- Polygonatum multiflorum.** *W.* Road-side near Slack Head.
- Paris quadrifolia.** *W.* Four forms in Hagg Woods, Arnside.
(1) Normal form, (2) five leaves, flowers 4-merous, (2) five leaves, flowers 5-merous, (3) seven leaves, barren.
- Sparganium minimum.** *L.* Tarn Hows, Coniston, 1891.
- Luzula spicata.** *W.* Helvellyn above Red Tarn, 2,600 feet.
- Scirpus maritimus.** *W.* Ditch by the road-side between Sand-side and Arnside. *L.* Marsh at Foxfield Station. 1891.
- Melica nutans.** *W.* Hedge at Arnside; hedge of Underlaid Wood; wood at the base of Haverbrack.
- Hymenophyllum wilsoni.** *W.* Dovedale; Deepdale; Grisedale.

ELEMENTARY PALÆONTOLOGY.

Elementary Palæontology for Geological Students, by HENRY WOODS, B.A., F.G.S. 222 pp. 8vo. Cambridge University Press, 1893.

THIS first volume of the Cambridge Natural Science Manuals, recently issued, will be welcomed by students of geology in this country. With the exception of the much larger work of Nicholson and Lydekker, no convenient manual of palæontology has hitherto appeared in the English language, and the present work therefore appeals at once to a large class of readers. The vertebrates are omitted, as being of minor importance to elementary students of geology. The Invertebrata are treated under eight sub-kingdoms, for each of which is given an account of the general zoological features, with a full description of such hard parts as are preserved in fossils; a classification noting the characters of the genera important to the geologist; and a sketch of the distribution in time of the various forms. The treatment of the subject is throughout that of a practical teacher: clearness and conciseness are secured at the expense of a certain 'cut-and-dried' style, which is perhaps inseparable from a brief survey of a wide subject. In spite of the necessary condensation, however, the difficulties felt by students are fairly met, the structure of extinct forms being, so far as is possible, interpreted by comparison with their living analogues.

The book is illustrated by 56 figures, many of which are specially drawn for this work, and these are chosen to illustrate different structural types, the author wisely considering that, as regards generic characters, no figures can take the place of actual specimens. A list of references for more advanced students and a full index conclude the volume.—A.H.

NOTES AND NEWS.

Among the most valuable contributions to biological science in recent times are the investigations of Mr. G. Massee into a disease destructive to sugar-canes in the West Indies. These are ably and minutely described in the 'Annals of Botany, vol. vii., p. 515-532. Hitherto, little or nothing was definitely known as to the cause of the disease. By some it was thought to be due to insects, but Mr. Massee has been enabled to trace it to a fungus, and by a series of interesting experiments he has succeeded in working out its life-history. He has called the fungus *Trichosphaeria sacchari*, which is one of the Ascomycetes. The experiments were made on sugar-canes which were growing in the Lily-house at Kew, and which were in a healthy condition. The infecting material was selected from a number of diseased sugar-canes, illustrating all phases of the disease, which had been sent from Barbados. In nearly all the experiments the results were highly satisfactory. Evidently, the fungus is both a saprophyte and a parasite, and, moreover, Mr. Massee suggests a number of precautions by which the fungus can be kept within bounds. The article is beautifully illustrated, and is well worth the careful study of mycologists.

BIOLOGY AT LIVERPOOL.

Proceedings of the Liverpool Biological Society. Vols. 1 to 4. 1887-1890.

Liverpool offers an exceedingly attractive centre for the biologist, for not only has he a fairly rich terrestrial fauna and flora whereon to pursue his investigations, but the broad majestic river which flows by the city into the contiguous Irish Sea provides a scene of marine life abundant in its forms and almost endless in its varieties. With such material to work upon, biologists could hardly fail to be stimulated to enthusiastic effort to probe to the bottom the varied problems which such a teeming wealth of living forms offer for their study, and that they fully realise this, even if somewhat tardily, is demonstrated by the excellent publications which issue from the two vigorous biological bodies whose formation practically dates from the association of Professor W. A. Herdman, D.Sc., with the University College of Liverpool. These two bodies are styled respectively the Liverpool Marine Biology Committee, which concerns itself only with the Fauna of Liverpool Bay and the neighbouring seas; and the Liverpool Biological Society, whose view covers a much wider field and reaches over the entire realm of Biological science both local and general. It is with this last Society that we are now more nearly concerned, and it is their publications which we have before us. Founded in 1886, it has each year issued a volume of Proceedings, which testify to the enthusiastic labours and the wide general knowledge of its members. It would take up too much space to enumerate even the titles of the various subjects brought before this Society in the four volumes now under consideration, and which bring its work up to the session of 1889-90. Many of the papers naturally relate to the local fauna and flora, and are especially concerned with the marine fauna, the investigation of which has led to the discovery of many species, not only new to the locality, but also new to science. Mr. A. O. Walker is especially earnest in his study of the Nupidæ and other forms of crustacea found in Liverpool Bay, and Mr. J. C. Thompson equally so of the Copepoda, both of them giving important lists of these two groups of animals. Prof. Herdman deals with some of the more abstruse problems of biological science, which he elucidates by that careful research and profound knowledge which characterise all his work. The Polyzoa of Puffin Island are reported on by Mr. Joseph Lomas; Mr. J. W. Ellis describes an actinarian new to Liverpool Bay, also treats of the Coleoptera of the Liverpool District; Dr. H. Stolterforth reports on the Marine Diatomaceæ; Dr. Richard Hanitsch on the Porifera; Mr. Herbert C. Chadwick

on the Echinodermata; Prof. Herdman on the Nudibranchiata and Ascidia; and Mr. T. J. Moore on Seals and Whales, besides other reports of a local character, as well as many papers of extreme biological interest. It is in fact impossible in a brief notice to do anything like justice to the valuable work which these publications display, and they will take rank amongst the best scientific literature. The Biological Society has entered with earnest vigour and well-founded knowledge upon its important work, and the result so far excites our warmest praise and admiration.—E. HOWARTH.

NOTES AND NEWS.

We regret to have to record the death, in his 75th year, of Mr. John Plant, who had been for nearly 45 years superintendent and curator of the museum at Peel Park, Salford. This admirable museum owes much of its success as a collection and as an educational institution to Mr. Plant's energy and ability. He was the last survivor of a family of naturalists, his brothers James, Frank, and Nathaniel being all well-known for work in their respective lines.

The lamented decease of Mr. Thomas Dyson, of Beverley, is announced in the same numbers of the Beverley newspapers in which were published his statement for 1893 of Beverley Rainfall, Temperature, Wind and Atmospheric Pressure. For many years he had made systematic observations on these points, and published his annual summaries in the local papers. He was a native of Drax, near Selby, and a school-master by profession. After a brief residence at Gainsborough, he came to Beverley in 1869, where his school was carried on to 1888, when he retired into private life. When he died he was but a week short of being 77 years of age.

A most important accession to the Nottingham Natural History Museum was mentioned at the December meeting of the Town Council, in a letter from Prof. J. W. Carr, M.A., the curator, who had the pleasure of announcing the receipt of a very extensive and valuable collection of British and foreign plants, presented to the Natural History Museum by Mr. H. Fisher, late of Newark. Some idea of the nature and extent of the collection may be gathered from the following enumeration of the more important series included in it:—(1) A practically complete herbarium of British plants, comprising about 2,000 species and varieties, and about 10,000 specimens. (2) A European collection, comprising many thousand species from France, Germany, Switzerland, Austria, Roumania, Russia, Norway, Sweden, etc. (3) Several thousand species from North America. (4) A very fine collection from the Bombay Presidency. (5) About 1,500 species from Natal, the Transvaal, and other parts of South Africa. (6) A small collection from Australia. Of the above collections that from Russia is of quite exceptional value and interest. It comprises species from all parts of the Russian Empire—from St. Petersburg, Lapland, and the Crimea, through Siberia to Kamskatka and Turkestan, also from the Trans-Caucasus and the Caspian region. The Spanish collection is an extremely fine and valuable one—probably one of the best in existence. In order to hand over the collection to the town in as complete and accessible form as possible, Mr. Fisher has come to Nottingham, for the purpose of arranging and labelling the collection, a work which will take many weeks of continuous application to complete. The thanks of the Council for so valuable a gift were ordered to be engrossed on vellum and framed and presented to Mr. Fisher.

ADDITIONS AND CORRECTIONS TO THE NIDDERDALE FLORA.

THE HARROGATE TRIO

(F. A. LEES, JOHN FARRAH, AND A. MILLWARD).

THE circumstance of several important additions and corrections for the 'N.' district having come to light since 1888, makes it probable that yet others are in the knowledge of observers. This seems a suitable opportunity for saying that the following plants have turned up within the area alluded to, last year and this, one of them—*Epilobium Lamyi*—being actually new to Yorkshire.

Rumex sanguineus L. The true, typical, blood-veined Dock.
Allotment ditch-bank, Harlow Moor, Harrogate!

Botrychium Lunaria Sw. Two new stations near Harrogate have turned up this season.

Poa rigida Link. Wall near 'Nidd-rock.'

Prunus insititia L. Hedge behind 'Swan' Hydro.

Lastræa glandulosa E.B. Bilton-bank slope of Nidd.

Anthoxanthum Puelii* Lec. & Lam. Colonist, among clover, Birk Crag.

Amelanchier (Pyrus) Canadensis var. **Botryapium*** One old tree, twelve to fifteen feet high, among alders, probably bird-sown, but with every appearance of a wilding, by the Oakbeck below Birk Crag; discovered by Mr. John Farrah. It is the 'Snowy Mespilus' of nurserymen's lists, but could not have been planted where it grows, and it fruited abundantly this summer. Hitherto noted as a naturalised foreigner only in the Tillingbourne Valley of south-west Surrey (Dunn); and on one of the Windermere islands (Foggitt).

Pimpinella magna L. Nidd bank, Birstwith, etc., *not* invariably on limestone. Brearton (Y.).

Vaccinium Oxycoccus. Harlow Heath, sparingly.

Rosa micrantha. Old hedge, below 'Spa' Hydro., at Harrogate (Farrah).

Galium uliginosum. Thomas's Rough, Oakdale.

Myosotis repens Don. Thomas's Rough, and Thackeray's Stripe.

Veronica scutellata. The slope of Oakdale opposite to Birk Crag.

Listera ovata var. **quadrifolia**. Three specimens of this singular aberrant form—a duplication analogous to that seen

in *Paris quadrifolia* where the four floral leaves are five, six, or even eight in number—were seen in Nidd-rock wood where a quarry used to be, with four leaves instead of the two implied in the name Twayblade; and singular from the teratologic view-point, *all the four leaves were produced* from the junction of stem and flower-spike *on the same plane*. It is difficult to see how this can have been so morphologically, but the interval between the opposite pairs was inappreciable, although the plants were stout and well-grown.

Myriophyllum alterniflorum. Blythe Nook brickponds. Also in Oak-beck, below the Sewage Farm, in the running water, this last being the '*M. verticillatum*' of Farrah's 'Flora of Harrogate' in Thorpe's *Guide* of 1891.

Triodia decumbens. Fields near Blythe Nook, Harrogate; and near Hill-top, Walkingham, in Yore area.

Hippocrepis comosa. One flowerless decumbent plant, in habit and leaf-rosette, apparently this species, in a stony pasture on Hill-top farm between Brearton and Walkingham hill. In the Yore district; but being so far away from the river (it grows by the Yore at Aysgarth) and on drift overlying Permian strata—on which it has not previously been observed—it is difficult to see how it has got to where it is. If further observation should establish the fact, in greater quantity, it will be an important addition to our knowledge of distribution.

Viburnum Lantana.* Hedge by footpath at top of cliff at Knaresborough, near St. Robert's Chapel. Probably planted. Near it, over the hedge, as escapes (naturalised) grow *Centranthus ruber*, *Reseda alba*, and *Rumex scutatus*, on the shelvings of the lime-rock at 'Fort Montagu.'

Silene nutans L. The Nottingham Catchfly. The occurrence still of this rare species at Knaresborough (questioned in 'Flora of West Yorkshire,' and re-asserted by Rev. W. C. Hey in the 'Naturalist' of Nov. 1888), has been satisfactorily confirmed at last. The original locality 'rocks on the Abbey plain' (Archd. Pierson, 1782), was varied in Hargrove's 'History of Knaresborough' (ed. of 1832), to 'shelvings of the rock near the Rock House.' Why, is not clear; but the Catchfly does *not* grow now on the rocks by the Rock House (St. Robert's Chapel and Fort Montagu); whilst, per contra, a minute search, recently, all along the cliff, revealed its characteristic tufts and seeded stems on the grass-covered talus below the lower cliffs, over the Abbey plain; i.e. one-third of a mile towards Gimbald Bridge from the Robert's Chapel. It grows for some fifty or

sixty yards, some of it in inaccessible spots near the vertical rock and the inaccessible slope of greenery where *Linum perenne* (presumably) has been known, through the field-glass, to grow for many years.

Silaus flavescens Bernh. Fields near Longlands Farm, Starbeck. Brearton Whins, and Walkingham in Yore district.

Solanum nigrum. A weed at Starbeck, in Mr. J. W. Addyman's garden, 1893. Waste ground near Ripon, T. C. Heslington, 1893.

Amaranthus albus.* A curious alien plant, much branched and twiggy, of a cabbage-white colour, with mucronate leaves and spine-tipped calyces and bracts, found in a corn-field near Ripon, in 1893, by Mr. Heslington. *Chenopodium Botrys*, Ripon also.

Rubus droseræcalyce Wall. 'The great Japanese Wineberry.' In the Bogs-valley Gardens, Harrogate—planted, but quite hardy and acclimatised (Mr. Sutherland): a magnificent fruiter, the bramble-berries being of a deep currant-red, pleasantly acidulous and of fine flavour. A native of Northern Japan, China, and Nepaul. The species is suberect, three to five feet high, stem nearly terete, clothed with very numerous red drosera-like glands, which exude a clear fly-catching gum, and many straight weak prickles; the leaves are trifoliate, rugose and deep-green above, with a fine silvery felting beneath; the panicle is leafy and very large, often bearing a hundred flowers, the petals of which are small, but the petioles and leaf-tipped calyces are profusely beset with sticky, deep-red gland-hairs; the fruit is oblong and raspberry-like, but of a glassier appearance, and a bright, lighter red.

Lysimachia punctata L.* Quarry behind King's Plantation, Harlow Hill, Harrogate. An outcast.

Borago officinalis. 'Blue Bee-bell.' In same quarry-hole as the preceding. Noticed for several years by Mr. Farrah.

Rubus Balfourianus (or near it). Hedge at the 'Hole,' Beckwith Head (Farrah).

Epilobium Lamyi F. Schultz. (Name confirmed by Arthur Bennett.) Waste ground, top end of Dragon Field, Harrogate. In profusion; with *Epilobium montanum* and *obscurum*, and a hybrid between the two (*E. aggregatum* Celak.); new to Yorkshire. Distinct in facies, from its small deep-rosy petals, its grey-green hue, and its twiggy, much-branched habit. The leaves are finely dentated, narrow-oblong, or lanceolate, very evidently though shortly petioled, and do not shine as in

obscurum. The buds are erect. The stolons are autumnal, the leaves thereof oblong and of a deep red mostly, but not broad-based and sessile as in *E. adnatum*.

Malva parviflora L. Waste ground, with the preceding.

[**Hypericum elodes**. None visible this year in any of the pools of the Hookstone string of quarries, wherein it lingered up to (at least) twelve years ago. More recent observations wanted.]

Papaver Argemone. Flagstone quarry, Little Wonder, Harrogate. Stubble, Hill-top, Walkingham (Y.).

Ficus Carica.* Two or three fine, flourishing plants, in the masonry of the Gas-Works wall by the Oak-beck, near Harrogate. A product of the Sewage farm irrigational proceedings?

Calamagrostis Epigejos. Red House Wood, near Moor Monkton (H. J. Wilkinson). In the Yore district ascends to Blackburnsike Spinney, Hawes, alt. 900 feet, an extension of the range as given in the 2nd edition of Baker's 'North Yorkshire.'

Genista tinctoria. Saltergate Hill, north-west of Harrogate, on an isolated patch of encrinital limestone (John Farrah, sponsor).

Aster lævis.* Road-bank above Pot Bridge, known to John Farrah for twenty years.

Veronica Buxbaumii. In stubble on Hemsley's farm, Haverah Park, with *Cerastium glomeratum*; in plenty, late in 1893.

Ulex Gallii Planch. Hardly, if at all, in evidence just around Harrogate. Sought in vain in 1893 about Hookstone and Stonefall, where it was seen 15 to 20 years ago. This exceptional autumn the Common Whin flowered plentifully in October, and shade-grown forms, with weak spines and very small floral bracts (var. *equinoctii* Lees), but lemon-yellow corollas, puzzlingly simulated the orange-flowered Planchon's furze.

Thlaspi alpestre var. **occitanum** Jord. With *Alsine verna* and *Geum rivale*, about the swallow-holes and lead-mines of Greenhow Hill, all in bloom still, September 25th (Farrah).

Lamium hybridum Vill. (**incisum**). As a weed in the Bog-valley Gardens, Harrogate; and by road-side, near Bilton Church (Farrah).

Mentha citrata Ehrh. Among bushes on bank of stream to the north-west of the Hookstone quarries.

Mentha Piperita var. **vulgaris** Sole. This, the truly-wild form, grows finely (4 to 5 feet in height) in the road-side ditches adjacent to Hookstone Wood, and the Harrogate to Wetherby road. It bloomed up to the end of October; the flowers of

a deep purplish red, the leaves stalked, and the scent of the bruised foliage being appreciably different from the more pungent camphoraceous officinal plant.

Conium maculatum. In plenty on the old-church bank of Ripley Park, above the Ripley Valley Station.

Potentilla reptans var. **microphylla** Tratt. This pretty, small-leaved, large-flowered variety of the Cinquefoil grows abundantly in stony turf on the Braham Hall Farm, near Plumpton, not confined to any particular area.

Melampyrum pratense var. **montanum** Johnst. Batchelor's part of Harlow Moor (J. Farrah).

Spiræa Ulmaria var. **denudata** (Boenning). By the mill-race, Knox Mill, Ripon Road, Harrogate.

Epilobium rivulare Wahl. In and by the Oak-beck, Lower Cardale. *E. roseum*. Allotment Gardens, Harrogate.

Sedum reflexum L.* This (*not rupestre*) is the species well-naturalised on the rocks above the Abbey plain, Knaresborough. Away from the cliff-gardens. *Antirrhinum majus** near by, too.

Hypericum montanum. Bushy places on the cliff banks, Knaresborough. Bank of lane between Robert-beck foot-bridge and Burton Leonard.

Atropa Belladonna. Still on the Abbey plain, Knaresborough. The *Calamintha officinalis* and *Asperula cynanchica*, on record since 1782, grow yet not far away. Also the *Salvia Verbenaca* and the *Allium oleraceum*.

Salix Smithiana Willd. By the Nidd above Birstwith, and lower down at Bilton Banks.

Quercus intermedia and **sessiliflora.** Near the new Pack Bridge over the Nidd above Birstwith. Also in lane between Nidd Hall and Brearton, in the Yore area. Also east side of Wetherby Lane, Harrogate.

Berberis vulgaris. Bank of lane at Clint by Hampsthwaite. Lane near Robert Beck footbridge, south of Burton Leonard (Farrah). In the last station *Cornus alba** in hedge, also.

Solidago Virgaurea. Descends by the Nidd to Knaresborough Cliffs.

Scirpus setaceus L. In one place near Harrogate, by a rill in Thackeray's stripe, with *Carex flava* var. *argillacea* and *Myosotis repens*.

Picris hieracioides. Rocky field, Hill-top farm, above Brearton; and in lane between Walkingham Warren Wood and Burton Leonard, in several places.

Onobrychis sativa.* Cultivated, and as an estray (in consequence) about Burton Leonard.

Chenopodium rubrum. Lane corner above the Robert Beck bridge, towards Burton.

Polygonum maculatum T. & D. Waste ground near Ripon (Mr. Heslington), growing four feet high, with main stem 'as thick as a cudgel.'

Polyporus igniarius. Growing like rusty horse-hooves from an old willow by brook at Hookstone quarries.

Fistulina hepatica. On an ivy-crowned oak in Brearton Lane. Cooked and eaten, with *éclat* sauce: its aspect when young and freshly cut-into that of tongue; its flavour that of liver and lambs'-fry rather than beef-steak.

The object of these rambling notes on the Nidd Valley flora being to stimulate, not satiate, an end must be made here.

NOTE—MAMMALIA.

Erratum: Water Shrew in North Notts (not North Wales, as printed in the 'Naturalist' for January, p. 12).

NOTE—MOLLUSCA.

Cuttle-fish at Flamborough.—For several weeks enormous quantities of Cuttle-fish have been cast ashore nearly every tide on the coast at Flamborough. They generally realise a large price on account of their value for bait. The fishermen have taken large catches of fish lately, more than could be sold at any price at Flamborough.—MATTHEW BAILEY, Flamborough, Jan. 13th, 1894.

NOTES—COLEOPTERA.

Acanthocinus ædilis in Derbyshire.—I have in my possession two specimens of *Acanthocinus ædilis*, both females, captured and given to me alive—one in Derby and the other at Denby. The one captured at Denby may have been imported in the mining timber used at the colliery, and it is just possible the one found in Derby may have been imported in timber, but it was not found near any timber yard.—JOHN HILL, Little Eaton, Derby, Dec. 30th, 1893.

Notes on Coleoptera in Yorkshire.—I am glad to be able to record *Stenus bipunctatus* from Askham Bog. It had not been found in Yorkshire when Canon Fowler wrote Volume II. of his British Coleoptera. I have met with two examples of the fine and rare *Oxypoda spectabilis*, both taken within a mile of this village (Ayton). I took them under stones among dead hawthorn leaves, one in November 1892, and the other in the same month of the following year. I have taken *Cercyon aquaticus* here by the side of a ditch, and great abundance of *Telephorus alpinus* on birch trees in Forge Valley. I was rather surprised to find some examples of *Helix fusca* fall into the beating umbrella at the same time, as I had not met with it on trees before. A flood brought great quantities of *Amara bifrons*, and a few *Anisotoma calcarata*. A dead rat I put out as a beetle-trap attracted an astonishing number of *Necrophorus vespillo* and *N. ruspator*, besides some *N. humator* and *Silpha rugosa*.—W. C. HEY, West Ayton.

YORKSHIRE NATURALISTS' UNION AT POCKLINGTON.

FOR the last excursion of the 1893 season, the district around Pocklington, including the villages of Barmby, Kildwick Percy, Warter, and Everingham, and the now famous Allerthorpe Common, was finally selected. Howden was the place originally chosen for this meeting, but as, despite the low-lying nature of the surrounding country, it was found totally unsuitable for a Fungus Foray, it was considered advisable to make the alteration.

The best thanks of the Union are due to Mr. J. J. Marshall, of Market Weighton, and Mr. H. T. Soppitt, of Bradford, for the assistance they gave the secretaries in helping to make all the preliminary arrangements.

Permission to visit their estates had been kindly granted by Lord Londesborough, Lord Herries, and Mr. Chas. H. Wilson, M.P. Although only planned for the two days, Wednesday and Thursday, September 6th and 7th, many of the mycologists arrived as early as Monday, and on Tuesday, under the leadership of Mr. George Masee, of the Royal Herbarium, investigated the neighbourhood of Kildwick Percy; but, owing to the great drought which had lasted for such a long time, and the hilly nature of the district, results were not entirely satisfactory. On the Wednesday they proceeded by wagonettes to Lord Herries' estate at Everingham, where they were much more fortunate, as they also were at Allerthorpe Common on the following day.

A very noticeable feature of this excursion was the almost total absence of the common species of fungi, the specimens obtained being more typical than abundant.

On Wednesday evening a Fungus Show was arranged in the long room at the Feathers Hotel, and Mr. Masee exhibited about 600 beautifully coloured sketches, typical of our British Fungi. Afterwards Mr. Masee gave a most interesting lecture on 'The Evolution of Fungi.' A full account of the doings of the mycologists will be found in a forthcoming paper.

On Thursday, a strong contingent of naturalists, representing all branches of natural history, arrived and spread over the surrounding country, though principally in the direction of Allerthorpe Common and Thornton Plantations. Both on this day and the preceding, the members were greatly indebted to Mr. George Steels of Pocklington, and Mr. W. Wox of Barmby, who, throughout the whole excursion, gave them not only the benefit of their local knowledge, but also of actual experience in the field, concerning the distribution and habits of all classes of living creatures. By a quarter to four most of the

members had found their way back to the 'Feathers' Hotel, where they did justice to the good fare provided.

The sectional meetings were then held, immediately followed by the general meeting, at which Mr. A. H. D. Leadman, F.S.A., presided. The following twelve affiliated Societies were represented on the excursion :—Wakefield, Leeds Naturalists', Conchological, Leeds Geological, Malton Naturalists', Hull Field Naturalists', Halifax Scientific, Harrogate and District, Hull Scientific, Hull Geological, Huddersfield Naturalists', and Leeds Co-operative Field Club. A cordial vote of thanks was passed to Lord Londesborough, Lord Herries, and Mr. Chas. H. Wilson, M.P., for allowing the members to pass over their estates, and to Mr. Geo. Steels, Mr. W. Wox, Mr. Robert Cundall, and Mr. Preston, for leading parties. The sectional reports were then given as follows :—

The Vertebrate section was officially represented by Mr. John Gerrard, the president, who stated that at Everingham the birds are strictly protected by Lord Herries, and therefore many species, almost unknown in some districts, are quite common around there : notably the Hawfinch and Goldfinch, whilst places where three nests of the Kingfisher had come off were seen.

Mr. George Steels, who has paid special attention to the ornithology of the district, records the following, amongst others, as occurring in the district :—

Waxwing.	Wood Warbler.	Lesser Redpoll.
Mealy Redpoll.	Redstart.	Jay.
Greater Spotted Woodpecker.	Cole Tit.	Woodlark.
Lesser Spotted Woodpecker.	Grey Wagtail.	Nightjar.
Green Woodpecker.	Dipper.	Kingfisher.
Ring Ouzel.	Pied Flycatcher.	Turtle Dove.
Snow Bunting.	Corncrake.	Water Rail.
Little Grebe.	Bullfinch.	Coot.
Quail.	Hawfinch.	Snipe.
Ringed Plover.	Siskin.	Jack Snipe.
Grey Phalarope.	Goldfinch.	Sanderling.
Redshank.	Brambling.	Curlew.
Sandpiper.	Grasshopper Warbler.	Crossbill.
	Nuthatch.	Heron.
	Grey Shrike.	

The Whiskered Bat, the Common Lizard, the Grass Snake, and the Viper are also found in the district.

The Conchological Section was represented at this excursion on the Thursday by Mr. W. Denison Roebuck, F.L.S. (Leeds), Mr. Tom Petch, B.A. (Hedon), and one of the secretaries of the section, Mr. F. W. Fierke (Hull), who supplies this report. The explorations

of the day were confined to the roads leading to Allerthorpe Common, the Common, and the Canal. Proceeding on the main road from Pocklington, *Helix cantiana* var. *albida* was occasionally met with on the stone-heaps. The typical coloured form was not seen; every specimen belonged to the variety named. The gregarious propensities of *Helix aspersa* were strikingly shown on examination of an old dilapidated brick wall, where scores of this species were found crowded together. On the Common, *Hyalinia pura* was fairly abundant in moss and other vegetation growing on the sheltered bank of a runnel, in company with *H. nitidula* and *H. crystallina*, and in close vicinity *H. nitida* was collected. In addition *Arion ater*, *A. circumscriptus* (an exceedingly dwarfed specimen), *Limax maximus* var. *fasciata*, *Agriolimax agrestis*, *Hyalinia alliaria*, *Helix rotundata*, *H. pulchella*, *H. nemoralis*, *H. hispida*, *H. caperata*, *H. virgata*, and *Cochlicopa lubrica* occurred on the route. We had been looking forward to some excellent sport at the fishpond, but were doomed to disappointment, as there was no trace of water anywhere, the pond having been completely dried up. We then proceeded on a circuitous route to the canal, where we arrived late in the afternoon. Our time had almost elapsed, but the canal presented too many attractions to be easily ignored. A few dips of the scoops resulted in securing *Planorbis albus*, *P. vortex*, *P. carinatus*, *Physa fontinalis*, *Limnæa peregra*, *Bythinia tentaculata*, *Valvata cristata*, *Sphærium corneum* and *Pisidium pusillum*. On the stone wall, at one of the bridges, *Pupa muscorum* occurred, and the banks of the canal were fairly productive of *Succinea putris*. A specimen of *Vertigo pygmæa* was subsequently submitted to the section, which had been taken in the district the same day. In the evening Messrs. Roebuck and Fierke joined a party on a ramble through the Park at Kildwick Percy, and in the lake there the valves of *Anodonta cygnea* were collected, as also a specimen of *Limnæa auricularia*. The result of the day's excursion was as follows:--Terrestrial mollusca (including four slugs), 21; aquatic, 11; total, 32 species.

For the Entomological Section the only lepidopterist present was Mr. William Hewett, of York, who arrived on the scene as the other members were leaving, in order to have a night at 'sugar.' The butterflies which were seen by members during the day were the following, all of which were abundant along the lane-sides; *Pieris napi*, *P. rapæ*, *Vanessa urticae*, *V. atalanta*, *Lycæna alexis*, *Polyommatus phlæas*, and *Chortobius pamphilus*.

Mr. Hewett arrived at Pocklington at 5.30 in the evening, and in company with Mr. W. Wox proceeded by way of Barmby to

Allerthorpe Common, and having daubed 143 of the birch and pine trees bordering it with a mixture of treacle, rum, and essence of pear, about 7.30 p.m. he lit his lantern and visited the sugared trees. The wind was south-west, a light breeze, and rather warm, the sky obscured, and the atmosphere dry. Moths were very common at sugar. The following is a list:—*Anchocelis litura*, very common and variable, as many as seven on one patch and in fine condition. *Xanthia ferruginea*, common and in fine condition; a red and yellowish form occurred. *Phlogophora meticulosa*, three specimens seen, and these worn; *Hadena protea*, three specimens seen, and these worn; *Xanthia cerago*, two specimens, worn; *Agrotis segetum*, one specimen in fine condition, second brood; *A. suffusa*, one in fine condition, second brood; *Leucania pallens*, five in fine condition, second brood; *Noctua c-nigrum*, seven in fine condition, second brood; *Polia flavocincta*, three in good condition; *Triphæna pronuba* (the ever-present Yellow Underwing), one specimen seen in fine condition, second brood; *T. orbona*, one specimen, worn. Earwigs (*Forficula auricularia*) were very common on the sugared patches. On the wing he noticed one or two specimens of *Cidaria immanata* and *C. testata*; the greatest number of moths noticed on one tree was nine. Whilst taking the noctuæ off the sugar Mr. Hewett disturbed two or three Owls, doubtless the Long Eared (*Asio otus*), although he was not near enough to distinguish the species. It may be added that whilst Mr. Hewett was in the same district, viz., at Kildwick-Percy, on the afternoon of February 13th, 1893, he took specimens of *Phigalia pilosaria*, *Hybernia leucophearia* (including two examples of the variety *marmorinaria* Esp.), *H. progemmaria*, and *H. rupicapraria*.

The only coleopterist present was Mr. Walter F. Baker, who reports as follows:—A more unfavourable day for the entomologist than the day of the excursion could hardly be imagined. A very strong, cold wind was blowing, and everything was perishing for the want of rain, and as a consequence the 'catches' were neither numerous nor good. The only Aphodii that were found, despite numerous 'searchings,' were *A. fimetarius* and *A. fossor*!! *Geotrupes stercorarius*, as usual, was in abundance, and on Allerthorpe Common *G. typhæus* was not rare. This latter species, unlike the former, seems to prefer carrion to dung, and Mr. Wox informs us that one can get as many of them as desired by laying a dead rabbit as a trap. I once before found this species under a dead sheep, but then came to the conclusion that it was accidental, and it should be interesting to learn whether any other entomologist has found this, or any other species of *Geotrupes*, on carrion. *Aphodius*

rufipes is certainly not uncommon in such situations. Proceeding in the face of a strong wind across Allerthorpe Common, lured by the hopes of a pond which on a former visit had proved fairly productive, the party were doomed to disappointment, for when they arrived at the spot they found it had dried up, owing to the long-continued drought, and the only water to be seen anywhere was a few drops on the leaves of *Hydrocotyle vulgaris*. A notable feature on the moor was the great quantity of *Epeira diadema*, the females of which, with the abdomen distended with eggs, attained a very great size. Passing through a small plantation emerging into a somewhat shady sandy lane, things began to improve. *Sermyla halensis*, *Adalia obliterated*, *Halysia 22-punctata*, and *Coccinella 7-punctata*, were found fairly abundant. Several of the *Sermyla* were found dead at the base of the plants but whether owing to the drought or not is open to speculation. Butterflies were fairly abundant on the wing, especially the Common Blue. In a small pool of water, 18 inches in diameter, which was all that was left of what was evidently a small stream in ordinary seasons, no less than four species of aquatic beetles were found, though all common—*Agabus guttatus*, *Anacæna limbata*, *Helophorus nubilus*, and *Hydroporus palustris*. *Chrysomela staphylea* and *Longitarsus pusillus*, with *Sitones hispidulus* were obtained by sweeping by the side of the canal, over the surface of which several species of *Libellula* and *Agrion* were disporting themselves. *Coccinella hieroglyphica* was obtained here at a former visit. To conclude, the total absence of many of our commonest beetles was owing, not so much to the district as to the weather. In fact the district appears as promising a one as any entomologist could wish for, but the exceptionally dry weather had done incalculable harm to insect life, and it augurs very badly for next year.

The Botanical Section, as usual, was well represented, and a goodly number of species were obtained, despite the exceptional dryness of the season. The following account is compiled from notes kindly sent by Mr. J. J. Marshall and Mr. C. Waterfall. The botanists were favoured with a fine, though somewhat dull day, yet a pleasing contrast from the previous meeting held by the Union at Pocklington, when a deluge of rain prevented anything but a most cursory investigation being made. An early start was made by some who had arrived overnight, or were able to reach their destination by the early trains, whilst others waited for their friends coming by later ones. Different routes were consequently followed, not by any means a disadvantage, as in this way more ground is covered and is likely to result in more species being noted. In a tall hedge, in

a lane between Pocklington and Allerthorpe Common, *Prunus communis* and its variety *P. insititia*, were noticed (and the fruit partaken of). Further on, near an old manure-heap, were gathered *Melilotus parviflorus*, *Chenopodium rubrum*, and *C. album* var. *viride*. Proceeding nearer to the Common, the hedge-banks yielded *Salvia verbenæ*, growing opposite a farm-house for a space of about 150 yards, and only in that spot. Arrived at the Common the following were added to the list:—*Genista anglica*, *Cnicus pratensis*, *Hieracium umbellatum*, *Parnassia palustris*, *Erica cinerea*, *Salix repens* var. *argentea*, *Carex stellulata*, *Lastræa dilatata* and a few belated *Gentiana pneumonanthe*. The dry weather was responsible for the total absence of such water-loving plants as *Drosera rotundifolia*. The disused canal was well searched and one member was well rewarded by the discovery of *Ceratophyllum demersum*, probably a new record for the East Riding. The cellular cryptogams were very interesting, though not many numerically. *Dicranella heteromalla*, *Dicranum spurium*, *Campylopus pyriformis*, *C. fragilis*, *C. flexuosus*, *Bryum erythrocarpum*, *Plagiothecium denticulatum*, and *Amblystegium riparium*. The rare hepatic, *Fossombronia dumortieri*, found by the late Dr. Spruce in 1842 on the same ground, was also found by Mr. Marshall. It may be mentioned here that in the circular issued before the meeting *Carduus heterophyllus* was stated to have been found. This should read *Carduus pratensis*.

For the Geological Section, Mr. J. W. Stather, F.G.S., gives the following report:—

Looking at the Geological map, the town of Pocklington, situated as it is on the Keuper Marls, just outside the western fringe of the chalk wolds, with the Lower Lias intervening, appears, and actually is, an excellent centre for geological research. But it must be confessed that our geological party, chiefly through the want of a local guide, were able to do but scant justice to the district.

As suggested in the printed programme, the geologists assembled at Nunburnholme Station, and during the pleasant walk between that place and Wartar Priory, caught good views of the escarpment of the Wolds to the east, but did not see any open sections. Near the village of Wartar the famous brickfield mentioned by Tate and Blake was visited, and although much overgrown and obscured by sliks, proved a most interesting section.

Here the red chalk was seen to rest directly on the Lower Lias, a fact which bears eloquent witness to the amount of denudation accomplished in this area during the secondary period. Here also a few common Lower Lias fossils were obtained, and Professor

H. J. Johnstone-Lavis, F.G.S., who was a member of the party, secured a fine specimen of *Pleurotomaria*, species not yet determined.

Leaving the brickyard and taking the road to Pocklington, one or two unimportant sections in the Lower Chalk were noted.

Nearing Pocklington the hill to the north-east of the town was ascended, and on the brow the Lower Lias was found well exposed; but the upper part of the hill appeared to be covered with chalk débris.

The usual vote of thanks to the Chairman concluded the proceedings.—W. F. B.

NOTES AND NEWS.

The recent elections to the fellowship of the Geological Society include Mr. H. Kynaston, B.A., of Durham; Mr. S. S. Platt, of Rochdale; and Mr. W. M. Hutchings, of Newcastle-on-Tyne.

We are pleased to see in the 'Irish Naturalist'—which, by the way, has changed its outward aspect—the commencement of Dr. Scharff's papers on 'The Irish Wood-Lice,' which are to include descriptions and figures of all the British species, and are calculated to be of considerable service to students of an obscure and neglected group of animals.

In the current January number of our excellent contemporary 'The Annals of Scottish Natural History,' our former editor, Mr. W. Eagle Clarke, F.L.S., has an article upon the Persecution of the Great Skua in Foula and the Faroes, whereby it appears that there is great probability of this fine bird soon becoming extinct as a European species, should effective measures not be taken to put a stop to the harrying of their nests and eggs by unscrupulous collectors.

The monographs which the Geological Survey has begun to issue on definite groups of formations in this country, will be welcomed by geologists who have tried to obtain connected ideas from the ordinary memoirs accompanying individual quarter-sheets of the one-inch map. These latter, with all their excellencies, are terribly hampered by official red-tape, and inevitably remind one of the policeman who would not cross the street to interfere in a scuffle because it was 'outside his beat.' Of the new series, volumes i. and ii., by Mr. C. Fox-Strangways, have dealt with the Jurassic rocks of Yorkshire. The rest of England is now disposed of, as regards the Lias, by Mr. H. B. Woodward in vol. iii., while vol. iv. (Lower Oolites) and vol. v. (Middle and Upper Oolites) are understood to be in preparation.

The 'Scottish Mountaineering Club Journal' for January 1894 opens with an article on 'Climbing near Wastdale Head,' by Mr. Norman Collie, from which it would appear that the English Lake District Mountains, especially Scawfell Pikes, afford as dangerous rock-climbing as is anywhere to be found, and it needs not the lesson of the tragic death of Professor Marshall to emphasize this. The mountain itself is safe enough and easy enough for any one who uses care and merely makes the ascent; but the would-be Alpine climber, who delights in scrambling up the gullies or 'ghylls' and places which demand the use of rope and ice-axe, had need to be warned by the dictum of a celebrated climber of Alpine repute, as quoted by Mr. Collie. He says that 'Climbing in the Caucasus was easy and safe: also it was usually easy and safe in the Alps, though sometimes difficult; but climbing as practised at Wastdale Head was both difficult and dangerous.'

NOTE—LEPIDOPTERA.

Mixodia palustrana near Halifax: a Species New to Yorkshire.—On July 1st last, I took a Tortrix on Greetland Moors, which was quite new to me, and on the 8th, after a diligent search, got four more. One of them I sent to Captain Thompson, of London, who kindly ascertained the name for me as *Mixodia palustrana* Zell., and informed me that the species had been considered almost exclusively a Scotch insect, and was quite new to the county of York.—DAN ROBINSON, Francis Street, Bridge End, Rastrick, Feb. 6th, 1894.

Mixodia palustrana is a very good addition to the 'List of Yorkshire Lepidoptera'; but besides in Scotland, we believe it has been reported from one or two localities in the north of England.—G. T. P.

NOTE—MOLLUSCA.

Limnæa glutinosa in Lincolnshire.—Of this water-snail I found a specimen, last month, at Saltfleetby All Saints, in the large 'drain' or waterway by the side of the road between Saltfleetby Station and the sea. It is an addition to Mr. Roebuck's 'List of the Land and Freshwater Mollusca of Lincolnshire,' published in 'The Naturalist,' in 1887, but it was referred to by the author, in his prefatory remarks, as a species which might quite possibly be found in the county. I have submitted the shell, for inspection and verification, to Mr. Taylor, of Leeds, so as to make this record uniform in value with Mr. Roebuck's list as regards specific determination.—H. WALLIS KEW, February 5th, 1894.

NOTE—MAMMALIA.

Melanic Specimen of the Long-eared Bat.—I have hitherto neglected to record the occurrence of an interesting and, I believe, not a common variety of this common species (*Plecotus auritus*), which was sent to me by my friend, Mr. Basil Carter. The specimen, which was captured at Masham on the 5th of Aug., 1890, was a male, and remarkable for its dark coloration and small size. The fur above was dark silvery grey, with a fulvous tinge; beneath, pale mouse grey; wings, face, and ears dark sepia brown, almost black. The extent of the wings was nine inches.—WM. EAGLE CLARKE, Edinburgh, February 1893.

NOTE—GEOLOGY.

The Foxdale Granite.—I have not met with any detailed description of the well-known granite of Foxdale, in the Isle of Man, and it may, therefore, be worth while to draw attention to the very close resemblance of this rock to the Leinster granites, an exhaustive study of which was given by Prof. Sollas a few years ago.

In hand-specimens it is seen to be a moderately coarse-textured grey muscovite-granite. The brown mica is subordinate in quantity to the white, and occurs chiefly as little patches enclosed in the latter. Quartz is abundant, and its grains are frequently seen moulded by the white felspar.

These peculiarities are explained by a thin section of the rock examined microscopically. The brown mica is in part in parallel intergrowth with the white, but has the ragged appearance ascribed to corrosion by the magma. Pleochroic halves, surrounding minute zircon crystals, are seen in both micas. The dominant felspars are a plagioclase, in more or less perfect crystals of earlier consolidation than the quartz, and microcline, which is clearly the last formed mineral of the rock. Orthoclase seems to be wanting. The plagioclase, which is very plentiful, usually gives extinction-angles up to about 14° from the twin-line in symmetrical sections, but there is some zonal banding. The rock further resembles certain of the Leinster granites (e.g., Three Rock Mountain near Dublin) in containing grains of isotropic garnet, and indeed an occasional little crystal of deep-red garnet can be detected in some hand-specimens.—ALFRED HARKER, St. John's College, Cambridge, February 15th, 1894.

FUNGUS FORAY
AT POCKLINGTON, ALLERTHORPE, AND EVERINGHAM,
SOUTH-EAST YORKSHIRE.

GEORGE MASSEE, F.R.M.S.,
Principal Assistant in the Herbarium, Royal Gardens, Kew.

WITH LIST OF FUNGI COLLECTED.

CHARLES CROSSLAND,
*Halifax, Mycological Secretary to the Botanical Section of the
 Yorkshire Naturalists' Union.*

THE Fungus Forays held under the auspices of the Yorkshire Naturalists' Union doubtless owed their origin to the combined influence of three causes—(1) A laudable ambition on the part of the Union not to be behind other societies in countenancing what was then a fashionable—because somewhat novel—feature of the day; (2) a desire to supplement the somewhat scanty knowledge of the mycology of the county; (3) to meet the desire of a few mycological members of the Union for mutual intercourse. However, apart from its origin, the stability of the foray as an annual event is now firmly established, and the meeting is not only considered a red-letter day by Yorkshire mycologists, but equally so by others residing far outside the boundary of the big county.

The justly-celebrated Hereford Foray, which for many years monopolised the first week in October, and was the universally acknowledged meeting-place for exchange of opinion and courteous criticism between British and foreign mycologists, has unfortunately run its course, and it is the hope and ambition of the members of the Yorkshire Union that the annual Yorkshire gathering may—by avoiding the weak points of its predecessor, which were mainly confined to an excess of hospitality—prove at least equally attractive and instructive to mycologists. In furtherance of this object no efforts are spared; a locality favourable for the object in view being selected, and an attractive, and it is to be hoped instructive, programme provided, embodying the leading current features of mycological interest, thus enabling everyone to become acquainted with the latest tendencies and discoveries in connection with the subject.

It is sometimes urged that the best work is not accomplished at such gatherings; this, as a matter of course, depends entirely on individual opinion as to what constitutes the best kind of work. Among the undeniable advantages of such a gathering, two stand

out prominent—first, the social element: the concourse consists of people who, for the time being, have one common object in view, and for this reason derive pleasure from the opportunity of forming a more intimate acquaintance than can be derived through the medium of letters or books; secondly, the opportunity afforded for becoming familiar with fungi in their native habitats, a factor of indispensable importance; for although it has become the fashion of late, on the part of some, to readily express their contempt for field work, yet the opinion of those who do not realise a plant as such until it has been soaked in alcohol for six months, will not be likely to disprove the older idea that familiarity with fungi in the living condition is necessary for the formation of a true conception of affinity; microscopic sections teach much, but not everything. As a rule from two or three hundred species of fungi, correctly named and classified, are on view during the foray, and this alone, to the beginner, is of great value, and coupled with the numerous items of information, always willingly given by more experienced workers, stimulates and also considerably lightens the labour of the beginner, who by such means soon reaches the point of deriving real pleasure from the study.

Finally, the following question has to be met: 'What is the use of studying fungi?' We say to the person capable of asking such a question, probably none. To other people it may be indicated that, in round numbers, the British Flora includes 10,000 species, of which 5,000 species, or one-half the entire flora, are fungi, and if we include the lichens, which are in reality but specialised fungi, we should add about 2,000 more to the number. In the fungi we have an opportunity of studying the origin and gradual evolution of a group of organisms from its secession from the parent stock—algæ—up to the point of highest differentiation attained by parasites or saprophytes; the gradual suppression of the various types of sexual reproduction present in the primitive forms, and inherited from their ancestors; or, finally, we may mention the remarkable life-history of many species, which during the complete course of their development appear under very different forms, and grow on different host-plants.

As at present constituted, there are what may be termed two official days allotted for the foray, but several mycologists usually assemble two days in advance, and on some occasions remain for a day or two after the official date.

Respecting last year's foray, held at Pocklington, it may be stated that, although owing to the exceptionally dry season a prolific crop of fungi could not be expected, the gathering of mycologists was the

largest on record, many arriving one or two days before the date of the foray; and, thanks to the foresight of the Union officials, an expert investigated the locality originally fixed upon—Howden—some short time in advance, and finding it unsuitable, owing to the exceptional season, Pocklington was substituted; and although some of the party tramped about all the time in low sand-shoes without getting wet feet, yet about 180 species of fungi were collected, many being new to the county list, and several of special interest on account of their peculiarity of structure or rarity. During the evenings, the specimens collected during the day were worked out and arranged in systematic order; a short discourse on the general nature of fungi was given, illustrated by sketches on the blackboard; sketches illustrating other phases of organic nature were also rendered. The weather, as usual, was charming, and everyone left Pocklington with a feeling of more than ordinary satisfaction, and with a determination to attend the next Yorkshire Fungus Foray.

HYMENOMYCETES.

AGARICINEÆ.

- Amanita mappa* Fr. Pocklington; Everingham.
Amanita rubescens Pers. Everingham.
Amanitopsis vaginata Bull. Everingham.
Lepiota procera Scop. Pocklington.
Lepiota felina Pers. Everingham.
Tricholoma spermaticum Fr. Allerthorpe.
Tricholoma albo-brunneum Pers. Everingham.
Tricholoma columbella Fr. Everingham.
Tricholoma terreus Schæff. Everingham.
Tricholoma melaleucum var. *porphyroleuca* Bull. Pock-
 lington.
Clitocybe cerussata Fr. Allerthorpe.
Clitocybe infundibuliformis Schæff. Everingham.
Collybia radicata Rehl. Pocklington; Everingham.
Collybia platyphylla Fr. Everingham.
Collybia maculata A.&S. Pocklington.
Collybia confluens Pers. Everingham.
Collybia tuberosa Bull. On dead *Russula*, Allerthorpe.
Collybia nitellina Fr. Allerthorpe.
Collybia dryophila Bull. Pocklington; Allerthorpe.
Mycena rugosa Fr. Everingham.
Mycena polygramma Bull. Pocklington.

- Mycena ammoniaca* Fr. Everingham.
Omphalia fibula Bull. Allerthorpe.
Pluteus cervinus Schæff. Everingham.
Pluteus hispidulus Fr. Everingham.
Pluteus ephebius Fr. Allerthorpe.
Entoloma rhodopolium Fr. Everingham.
Entoloma sericeum Bull. Allerthorpe.
Clitopilus prunulus Scop. Allerthorpe.
Leptonia lampropoda Fr. Allerthorpe.
Leptonia formosa Fr. Allerthorpe.
Pholiota radicata Bull. Everingham.
Pholiota flammans Fr. Everingham.
Inocybe plumosa Bolt. Everingham.
Inocybe pyriodora Pers. Pocklington.
Inocybe incarnata Bres. Everingham.
Inocybe rimosa Bull. Pocklington.
Inocybe asterospora Quel. Everingham.
Inocybe geophylla Fr. Pocklington ; Everingham.
Hebeloma fastibile Fr. Everingham.
Flammula inopoda Fr. Everingham.
Agaricus augustus Fr. Pocklington.
Agaricus campestris L. Everingham.
Agaricus campestris var. **sylvicola** Vitt. Everingham.
Agaricus arvensis Schæff. Everingham.
Agaricus comptulus Fr. Pocklington.
Stropharia semiglobata Batsch. Pocklington ; Everingham ;
 Allerthorpe.
Hypholoma epixanthus Fr. Allerthorpe.
Hypholoma fascicularis Huds. Pocklington ; Allerthorpe.
Hypholoma lachrymabundus Fr. Pocklington.
Hypholoma velutinus Pers. Everingham.
Hypholoma appendiculatus Bull. Everingham.
Psathyra semivestita B.&Br. Pocklington.
Psathyrella gracilis Fr. Everingham.
Psathyrella atomata Fr. Everingham.
Coprinus flocculosus Fr. Everingham.
Coprinus niveus Fr. Pocklington ; Everingham.
Coprinus micaceus Fr. Everingham.

- Coprinus radiatus* Fr. Everingham.
Cortinarius anomalus Fr. Everingham.
Cortinarius armillatus Fr. Pocklington.
Cortinarius leucopus Bull. Everingham.
Cortinarius acutus Fr. Everingham.
Gomphidius gracilis Berk. Everingham.
Paxillus involutus Fr. Everingham.
Paxillus pannoides Fr. Everingham.
Lactarius blennius Fr. Everingham.
Lactarius pyrogalus Fr. Pocklington.
Lactarius vellereus Fr. Pocklington.
Lactarius quietus Fr. Pocklington ; Allerthorpe.
Lactarius fuliginosus Fr. Pocklington.
Lactarius mitissimus Fr. Pocklington ; Everingham ; Allerthorpe.
Lactarius subdulcis Fr. Pocklington ; Everingham.
Russula nigricans Fr. Allerthorpe.
Russula adusta Fr. Everingham.
Russula densifolia Seer. Everingham.
Russula delica Fr. Allerthorpe.
Russula furcata Fr. Allerthorpe.
Russula virescens Fr. Allerthorpe.
Russula lepida Fr. Allerthorpe.
Russula heterophylla Fr. Everingham.
Russula foetens Fr. Allerthorpe.
Russula queletii Fr. Allerthorpe.
Russula expallens Gillett. Everingham ; Allerthorpe.
Russula emetica Fr. Allerthorpe.
Russula emetica var. *clusii* Fr. Allerthorpe.
Russula granulosa Cke. Everingham ; Allerthorpe.
Russula fragilis Fr. Everingham.
Russula veteriosa Fr. Everingham.
Russula decolorans Fr. Allerthorpe.
Cantharellus aurantiacus Fr. Everingham.
Marasmius peronatus Fr. Pocklington ; Everingham.
Marasmius oreades Fr. Everingham.
Marasmius calopus Fr. Everingham.
Marasmius ramealis Fr. Pocklington.

Marasmius rotula Fr. Pocklington ; Everingham.

Marasmius androsaceus Fr. Allerthorpe.

Panus conchatus Fr. Allerthorpe.

POLYPOREÆ.

Boletus luteus L. Allerthorpe.

Boletus elegans Schum. Everingham.

Boletus sulphureus Fr. Everingham.

Boletus subtomentosus L. Everingham.

Boletus luridus var. *erythropus* Fr. Allerthorpe.

Boletus scaber Fr. Allerthorpe.

Fistulina hepatica Fr. Everingham.

Polyporus squamosus Fr. Everingham.

Polyporus betulinus Fr. Everingham ; Allerthorpe.

Polyporus epileucus Fr. Everingham.

Fomes annosus Fr. Everingham.

Fomes ferruginosus Mass. Pocklington.

Polystictus versicolor Fr. Everingham.

Polystictus perennis Fr. Allerthorpe.

Poria vaporaria Fr. Pocklington.

Poria medulla-panis Fr. Pocklington.

Poria vaillantii Fr. Everingham.

Poria sanguinolenta A.&S. Everingham.

HYDNEÆ.

Hydnum niveum Pers. Everingham.

Caldesiella ferruginosa Sacc. Everingham.

THELEPHOREÆ.

Thelephora caryophyllea Pers. Everingham.

Corticium sebaceum Mass. Pocklington.

Corticium sambuci Fr. Everingham.

CLAVARIEÆ.

Clavaria cinerea Bull. Everingham ; Allerthorpe.

Clavaria crassa Britz. Pocklington.

Calocera viscosa Fr. Everingham.

TREMELLINEÆ.

Tremella lutescens Pers. Allerthorpe.

GASTEROMYCETES.

SCLERODERMEÆ.

Scleroderma verrucosum Pers. Everingham.

PHALLOIDEÆ.

Mutinus caninus Fr. Allerthorpe.

UREDINEÆ.

Puccinia pulverulenta Grev. Allerthorpe.

Puccinia menthæ Pers. Everingham.

Puccinia suaveolens (Pers.). Allerthorpe.

Puccinia polygoni Pers. Allerthorpe.

Triphragmium ulmariaë (Schum.). Everingham.

Phragmidium subcorticatum (Schrank.). Allerthorpe.

ASCOMYCETES.

DISCOMYCETES.

Helvella elastica Bull. Pocklington ; Everingham.

Peziza cochleata Bull. Everingham.

Chlorosplenium æruginosum (Flo.Dan.). Everingham.

Mollisia cinerea (Batsch.). Pocklington ; Everingham.

Lachnea macropus (Pers.). Everingham.

Lachnea hemispherica. Everingham.

Lachnea dalmeniensis Cke. Everingham.

Lachnea prasina Quelet. Everingham.

Bulgaria inquinans Fr. Everingham.

Ombrophila purpurea Fckl. Everingham.

PYRENOMYCETES.

Daldinea concentricum Mont.

Xylaria polymorpha Linn.

Cordyceps militaris Fr. Everingham.

Nectria cinnabarina Fr. Everingham.

PHYCOMYCETES.

Sporodinia aspergillus Schröt. Allerthorpe.

USTILAGINEÆ.

Sphacelotheca hydropiperis (Schum.). Allerthorpe.

Tilletia rauwenhoffii F.deW. Allerthorpe.

MYXOGASTRES.

Reticularia lycoperdon Rost. Pocklington.

Lycogala epidendron Rost. Pocklington.

Arcyria punicea Rost. Everingham.

In addition to the above, between 80 and 90 species were exhibited which had been collected near Hebden Bridge by J. Needham and H. Pickles. These included *Omphalia bella* Johnst.; *Coprinus oblectus* Fr.; *Boletus alutarius* Fr.; *Boletus porphyosporus* Fr.; *Strobilomyces strobilaceus* Berk.; and other uncommon fungi. *S. strobilaceus* Berk. and *Polyporus rostkovii* Fr. were taken from Northdean Wood, near Halifax, one of Bolton's hunting grounds. Besides these Mr. A. Clarke, of Huddersfield, also brought *S. strobilaceus* Berk. and *Paxillus paradoxus* Berk. from his district. A fine specimen of *Polyporus sulphureus* Fr. was sent by Mr. J. Carter, from Masham, and *Exobasidium vaccinii* Woronin. from near Bingley, by Mr. E. P. Butterfield.

NOTES AND NEWS.

In the September issue of 'Folk-Lore'—a quarterly review of myth, tradition, institution, and custom, by its sub-title—are the second part of a paper on 'Legends of the Lincolnshire Cars' (by Mrs. M. C. Balfour), and an article on 'Manx Folk-Lore and Superstitions' (by Professor J. Rhys). The number also includes short notes and a useful bibliography of recent folk-lore publications.

In the November and December numbers of the 'Annals and Magazine of Natural History,' we note a valuable paper by the Rev. Canon A. Merle Norman, D.C.L., entitled 'A Month on the Trondhjem Fiord,' with ample introductory account of the explorations and a fully annotated list of the Mollusca and Molluscoidea collected, and briefer lists of the Crustacea, etc. Of these papers, by the kindness of the author, reprints lie before us as we write.

Under the title of 'Random Recollections of Woodland, Fen, and Hill' (Swan, Sonnenschien & Co., London), Mr. J. W. Tutt, F.E.S., has just published a capital little book which ought to be put into the hands of every schoolboy who has any inclination towards an interest in natural science. We should think it impossible for such a one to read through it and not have those leanings very considerably strengthened. The author is a keen and enthusiastic field naturalist, and in the book he takes the reader with him on nine of his holiday excursions, and in a chatty and humorous, yet fascinating way, he lays before him the various scientific or philosophical questions relating to lepidoptera, which are so largely engaging the attention of entomologists at the present day. For instance, in the excursion to Wicken Fen (Chapter I.), the subject of mimicry in caterpillars is dealt with. In the chapter entitled 'Why the Negro is Black,' the absorbing subject of 'Melanism in Lepidoptera' is pleasantly explained according to the author's views. The heading of the following chapter, 'Emigration and Immigration,' gives the clue to the subject of argument. Then follows 'The Love-making of the Ghost,' the 'ghost' in the case being nothing more than the well-known moth of that name; and so on. It is a long time since we read a book of its kind with more pleasure.—G. T. P.

FURTHER NOTES ON THE MIGRATIONS OF THE YELLOW WAGTAIL.

F. B. WHITLOCK,

Beeston, Notts.

I AM glad to see a reply from Mr. Cordeaux to my notes on the migrations of the Yellow Wagtail (*Motacilla raii*).

The facts I stated were advanced in support of an alternative theory explaining the regular appearance of large flocks of this species on the Humber coasts in September. I do not, however, expect a theory which is merely founded on local observation to hold ground in the face of Mr. Cordeaux's acute powers of observation and forty years' experience in the Humber district, but I may point out in support of what I have already stated that the Spurn overlaps, in an easterly direction, the greater part of the coast included in the latter district, and I thought it not improbable that birds travelling down the Holderness coast, in crossing the Humber, would, after leaving the Spurn, make for the nearest point on the Lincolnshire side, and that, as the winds usually blow from some point of west during this month, they might be deflected from their course, and thus, when merely crossing the Humber, appear to be coming in from the east and over the sea.

Mr. Cordeaux's remark that the immense flocks of small birds passing the Humber district on their return migration do not pass inland, is no doubt true of his own locality, but later in the year, i.e., the end of September and beginning of October, swarms of Skylarks, Starlings, Finches, and others, travel down the eastern side of the Wash and thus pass directly inland, as I know from personal observations. These species, however, Mr. Cordeaux may perhaps look upon as winter visitors, and not migrants in the same sense as the Ring-Ouzel, Wheatear, Redstart, Willow Wren, Pied Flycatcher, and Yellow Wagtail, all of which, with the exception of the latter, breed up to a very high latitude. The Yellow Wagtail, however, is certainly not a northern breeder, and this makes all the difference.

Mr. Cordeaux is quite in error in thinking that I look upon the Humber and Severn route as the fly-line taken by the species he mentions; I could hardly think that, knowing how rare some of them are here. What I wrote in reference to this point was as follows:—
'If these large flocks (of *M. raii*) were travelling by the route suggested by Mr. Cordeaux (i.e., an east to west route) they would next naturally take the Humber and Severn route,' and that he held the same view himself is evident by his concluding remarks to his 'Zoologist' paper. He writes:—'We think there is sufficient

evidence that large numbers of our English Yellow Wagtails cross from the Continent in the autumn to migrate *across* England, and following a *south-westerly direction*.' The italics are mine. I am therefore naturally surprised to see he now includes the present species in his list of birds which travel due north to south, and in passing I may mention that I made special search for flocks of *M. raii* on the Lincolnshire coast between Skegness and Gibraltar Point in September, 1891, but without success.

I still think that Mr. Cordeaux's theory that these flocks of *M. raii* are travelling from some district in central or south-eastern Europe cannot be accepted as correct until it is supported by continental evidence, for though a large colony of Yellow Wagtails exists in the Lower Volga district, the species is practically absent in the vast intervening country lying to the west of that locality, and in the remainder of continental Europe is only commonly found in the Iberian Peninsula, the west of France, and in Holland and Belgium. Even in Spain and Portugal it is chiefly known, I believe, as a migrant. If Mr. Cordeaux is correct, surely Heligoland should afford us some confirmatory evidence; but the Yellow Wagtail, though it has bred on the island, is only a straggler there. Let us examine the journey these birds would have to accomplish if the facts are as Mr. Cordeaux suggests. First, a land journey approaching a thousand miles, during which they escape the observation of continental ornithologists, next a sea passage to Lincolnshire over the German Ocean, then, as Mr. Cordeaux implies in his latest note, they travel due south down the coast to, let us say, Chapel-St.-Leonard's, next a further sea-passage to north Norfolk, and finally, after further coast travelling, another sea-journey to the north of France—truly a most remarkable and circuitous route to follow, and only followed, though the migration is described as normal, by a portion of a large breeding community. Though I do not feel competent to discuss the subject from a geological point of view, I may point out that Mr. Cordeaux's ingenious suggestion of a continuous area of land uniting the shores of Holland and Lincolnshire, may with equal force be advanced in favour of my own theory as to the appearance of these large flocks of *M. raii*. The stream of migration after following the Rhone and Seine, or some other river valley trending north, may just as well have turned along the ancient coast to the west instead of the east. It seems to me to be straining a point to send the stream in the latter direction if their destination was South Eastern Europe, when the most natural route would have been, as it is now known to be, from the African winter quarters south of the great desert, through Egypt. Before leaving *M. raii*

I should like to ask Mr. Cordeaux if he has observed any of those fine variations in the colour of individuals forming these flocks, analogous to those he has detected in the Starling and other species. Comparing a male *M. flava* from South Russia, with local examples of *M. raii*, I find the latter, brilliant as they are, are surpassed in richness of tint by the former, and I should expect to find eastern examples of the latter to be brighter in like manner than are our British-bred birds.

I should also like to remark that Mr. Cordeaux's explanation of the fact that *M. flava* does not turn up amongst these flocks of *M. raii* is not altogether sufficient. He attributes their absence to the different periods of migration of the two species, the former being described as later in arrival at its breeding-grounds by a month and also earlier in its departure than the latter. This is perhaps true of Central and Southern Europe, but on referring to Heligoland data ('Naturalist,' 1887, p. 313, et seq.), I find evidence there that *M. flava* is on the move over the whole time occupied by the migrations of *M. raii*. I extract the following notes:—

Spring—April	3—	<i>M. flava</i> .	Some.
„	„	5—	<i>M. flava</i> .
„	„	18—	<i>M. flava</i> . Some.
„	„	19—	<i>M. flava</i> . Many, etc., etc.

The return movement was first observed August 25th, lasting in more or less strength till October 6th.

Referring to the Humber and Severn route as a fly-line (which I am fully aware is principally used by *winter* migrants, except locally), though relatively of small moment, and perhaps of more interest as suggesting an ancient movement along what was once a sea coast, I think Mr. Cordeaux rather under-rates its importance. During a residence of seventeen years in the Trent valley, I have seen at various times a great deal of migration, but I have no hesitation in stating that what I have observed is only a small fraction of that which annually takes place. Many of my notes are the result of happy accidents, birds passing so much in the night, and consequently escaping notice unless something in the nature of a thunderstorm, street lights, or even a number of clocks striking the hour alarms them and causes them to cry out. Only a short time since I reported the fact of large flocks of Waders passing over during a violent thunderstorm, all of which would have escaped notice under normal conditions, and as an illustration of the numbers comprising these flocks, I can say that their voices were most plainly to be heard above the rushing of the rain and general disturbance.

In conclusion, I should like to ask Mr. Cordeaux and others, if they have observed in the Humber district, in spring, any migration of British breeding birds to the south-west, or any accumulation of birds which may have travelled in the opposite direction in the autumn. I am convinced, from constant observations, that this is the course pursued by many species of our North Midland birds, and I may say that I have come to this conclusion after having held a diametrically opposite opinion.

F. B. WHITLOCK.

February 4th, 1894.

For several years in succession I witnessed the autumnal migration of the Yellow Wagtail on the northern margins of the Humber estuary, near to Spurn Head, and I venture to offer my evidence as to the whence they came and whither they went. The birds arrived from the *West*, travelling along the north shores of the estuary and its immediate vicinity, down the headland (Spurn) to its extreme point, and then, I presume, they passed south to the Lincolnshire coast. The movement was not a hurried one, but the majority did not tarry long; and the birds, which were both old and young, preferred the Humber side to that of the North Sea. That this species should find its way regularly as a migrant to this district is perfectly natural. The bird is an extremely abundant summer visitant to the grass-lands which are so characteristic of the upper portions of the numerous dales of North and West Yorkshire, whose waters reach their focal point, so to speak, at the head of the Humber. I may say, from personal observation, that the numbers of the Yellow Wagtail in the districts alluded to are more than sufficient to furnish the army of emigrants I have seen near the mouth of the said estuary en route for their winter quarters.

WM. EAGLE CLARKE.

NOTES AND NEWS.

The 61st annual meeting of the Entomological Society of London was held on January 17th, 1894, when the following gentlemen were elected as Officers and Council for 1894:—President, Mr. Henry J. Elwes, F.L.S.; Treasurer, Mr. Robert McLachlan, F.R.S.; Secretaries, Mr. Herbert Goss, F.L.S., and the Rev. Canon Fowler, M.A., F.L.S.; Librarian, Mr. Geo. C. Champion, F.Z.S.; and as other members of the Council, Mr. Walter F. H. Blandford, M.A., F.Z.S., Mr. Charles J. Gahan, M.A., Mr. Frederic Merrifield, Prof. Edward B. Poulton, M.A., F.R.S., Colonel Charles Swinhoe, M.A., F.L.S., Mr. George H. Verrall, Mr. James J. Walker, R.N., F.L.S., and the Right Hon. Lord Walsingham, LL.D., F.R.S. Mr. Merrifield then read the President's Address, in which, after alluding to the principal events of the past year, and the prosperous condition of the Society, he referred to the additions which had been made in 1893 to the literature of Entomology. He concluded by referring to the losses by death during the year of several Fellows of the Society and other Entomologists, special mention being made of Prof. H. A. Hagen, M.D., the Rev. Leonard Blomefield, M.A., the Rev. F. O. Morris, B.A., Mr. J. Batty, etc.

CASUALS AND ALIENS IN THE DEWSBURY DISTRICT IN 1893.

P. FOX LEE,

Dewsbury; President of the Botanical Section of the Yorkshire Naturalists' Union.

As a consequence of the exceptionally dry sunny weather of the spring, summer and autumn of this year, a large number of these wool-and-grain-brought plants have been able—contrary to their usual experience under the generally adverse meteorological conditions prevailing in these climes—to pass safely through the flowering and fruiting stages, thereby not only reminding them of their native countries, but, alas! rendering them an easier prey to the botanist: seeking what he may devour.

I here desire to tender my thanks to Mr. F. Arnold Lees, and to Mr. W. Carruthers, Keeper of the Botanical Department of the Natural History Museum, South Kensington, for kindly help in the determination and confirmation of the names of the exotics. Those marked with an asterisk have not hitherto been placed on record for this immediate district, and those with a dagger prefixed are additions to the flora of the Riding, i.e., not mentioned in 'The Flora of West Yorkshire.'

On the banks of the river Calder and the Canal and on wool-refuse and waste ground at Ravensthorpe and Mirfield, the following observations have been made:—

- Raphanus sativus** W. Calder bank; a very noticeable plant.
- †***Sisymbrium pannonicum** Jacq.
- †***Reseda Phyteuma** L.
- †***Silene quinquevulnera** L. †***S. dichotoma** Ehrh.
- ***Malva borealis** Wallm.
- †***Hibiscus Trionum** L. The 'Bladder Ketmia.' (C. Ely.)
- ***Geranium pyrenaicum** L.
- †***Erodium tripinnatum** Jord. (or **pilosum** Bor.).
- ***Erodium ciconium** Willd.
- Impatiens parviflora** DC. (H. Parkinson.)
- ***Trigonella monspeliaca** L. ***T. corniculata** Willd.
- †***Ornithopus compressus** L.
- Vicia gracilis** Lois. (? Barren.)
- ***Lathyrus Aphaca** L. †***L. angulatus** L.
- ***Lupinus linifolius** L.

- **Poterium muricatum* Spach. (E. T. Gosling.)
 **Bupleurum rotundifolium* L. Common Hare's Ear. (H. Parkinson.)
Fœniculum officinale All. Fennel.
 **Asteriscus aquaticus* Less. (H. Parkinson.)
Aster lævis L. (H. Parkinson.)
Senecio viscosus L. The railway embankment near Mirfield Station covered with it.
 **Lactuca virosa* L.
Gilia capitata Don.
Borago officinalis L. (H. Parkinson.)
 **Solanum nigrum* L. (C. Ely.)
 **Polygonum arenarium* W.K. An elegant plant; see 'The Flora of West Yorkshire,' p. 390 (H. Parkinson).
Beta vulgaris L.
 †**Euphorbia Esula* var. *Pseudo-cyparissias* Jord. A fine colony of this unusual leafy-branched Spurge, on the Calder bank, near the long-known clump of that rare denizen, *Senecio saracenicus* L.
Setaria viridis Beauv. The Green Bristle Grass.
 †**Phleum Boehmeri* Schrad.

About the mills on manure, shoddy and wool-waste heaps, at Batley and Dewsbury, I have gathered the following:—

- **Lepidium ruderales* L.
 **Lepidium Draba* L. The Whitlow Pepper-wort.
 †**Raphanus Laudra* Moretti in DC. At Horbury Bridge.
Reseda Phyteuma L.
Saponaria Vaccaria L. At Horbury Bridge.
 **Malva parviflora* L.
Erodium cicutarium L'Hérit.
 †**Erodium cicutarium* var. *chærophyllum* Cav.
Erodium ciconium Willd.
 **Trigonella gladiata* Steven. The 'Sword Fenugreek.'
Trigonella corniculata Willd.
Medicago maculata Sibth. *M. denticulata* Willd.
 †**Melilotus messanensis* P.S.
Melilotus arvensis Wallr. Although the pods were immature, it agreed in other points.

Lathyrus Aphaca L.

†***Ammi visuaga** L. The Fennel Carrot ; South European.

†***Kaulfussia amelloides** Willd.

†***Xanthium spinosum** L. var. **angustifolia**. Three plants only, but very different looking to the type, *X. spinosum*, growing this year in greater abundance than I have seen it previously.

Xanthium strumarium L.

†***Galinsoga parviflora** Cav. An introduction from Peru.

Silybum Marianum Gærtn. Milk Thistle. Waste ground.

***Centaurea Calcitrapa** L. The form with bipinnate ragwort-like leaves.

†***Centaurea Isnardi** L.

***Ambrosia artemisiæfolia** Willd.

***Marrubium vulgare** L. The White Horehound ; only truly native for Britain, in the Isle of Wight.

***Amaranthus retroflexus** L.

†***Amaranthus spicatus** Lamk. The Upright Hairy Cock's comb.

†***Beta patula** Willd.

***Chenopodium murale** L. ***C. rubrum** L.

Setaria viridis** Beauv. †S. glauca** Beauv.

Polypogon monspeliensis Desf. The Annual Beard-grass.

***Glyceria distans** Wahl.

***Hordeum murinum** L.

†***Ceratochloa unioiloides** P. de B.

†***Triticum monococcum** L.

I also noted on a manure-heap, seedling plants of *Cephalaria syrica* (or *Dipsacus atropurpureus*), *Amaranthus caudatus* (Love-lies-bleeding), in flower, with *Pisum arvense* (the Grey Pea) in fruit, and, as most convincing evidence of favourable weather, the Tomato (*Lycopersicum esculentum*), in several places, and the Fig (*Ficus Carica*) safely wedged in the mortar joint of a wall, and in vigorous growth, just above the normal inky water-line of the beck running through Dewsbury.

7th December, 1893.

NOTES AND NEWS.

The newly-issued volume of the Palæontographical Society contains the third instalment of Dr. G. J. Hinde's 'Monograph of the British Fossil Sponges.' It is devoted to the Jurassic species, and includes many from the Corallian formations of Yorkshire, mostly from the collection of Mr. S. Chadwick, of Malton. One new species is appropriately named *Corquella chadwicki*. Other specimens described are from the York Museum.

March 1894.

OCCURRENCE OF *LINOTA EXILIPES* (Coues) ON THE EAST COAST OF YORKSHIRE.

JOHN CORDEAUX, M.B.O.U.,
Great Cotes House, R.S.O., Lincoln.

THE very considerable variations both as regards measurement and coloration amongst the Arctic Redpolls, obtained from time to time on the east coast of Yorkshire in the autumn and winter, are suggestive of these little immigrants being drawn together, under the pressure of winter, from widely separated areas. On February 25th, 1893 (as already recorded in 'The Naturalist'), Mr. H. B. Hewetson and I, when on Kilnsea Common, saw a most beautifully-plumaged Redpoll, which appeared as large as a linnet, clinging to a thistle, from its size and light colour, and having had it for some time under observation at the distance of a few feet, I had at the time no doubt in referring it to *Linota hornemanni* of Greenland, Iceland, Spitsbergen, and Eastern North America, an example of which from the Northumberland coast was described and figured by John Hancock under the name of *Linaria canescens*. In the present winter, Mr. Hewetson was fortunate in obtaining a very light-coloured Redpoll from near Easington, and this he obligingly sent to me for examination. The cinereous markings are in this example more pronounced than in the bird seen by us in 1893, and it is, although very light-coloured, distinctly darker on the upper surface. To judge also by the eye, without the opportunity of taking actual measurements, it is also smaller. The Easington bird has been seen both by Professor Newton and Mr. H. E. Dresser, both of whom agree that it is referable to *Linota exilipes*, an Arctic and circumpolar species allied to *L. hornemanni*, but differing in its somewhat smaller size. The difference between the two, *Linota hornemanni* and *L. exilipes*, appears to me, after seeing a large series of skins, to be one of size only, and in fact they appear hardly separable. If they are ever to be regarded as one species, as Professor Newton has pointed out, it is the former name that must be used.

This occurrence of *L. exilipes* is new therefore as a record both for East Yorkshire and Great Britain. I have, however, evidence that others have been obtained in recent years in Holderness.

8th February, 1894.

A CRITICAL CATALOGUE OF LINCOLNSHIRE PLANTS:

FROM ALL KNOWN SOURCES.

REV. E. ADRIAN WOODRUFFE-PEACOCK,

*Vicar of Cadney, Brigg; Botanical Secretary of the Lincolnshire Naturalists' Union;
Curator of the Lincolnshire County Herbarium.*

FIRST PAPER.

THIS series of papers on the Flora of Lincolnshire will contain a full and critical list of our native plants, escapes, and casuals, from all sources known to me, my friends, and correspondents. They will be a digest of my *Locality Register*, which itself is an analysis of every published list, manuscript, and public and private collection of Lincolnshire plants known to me—with the exception of the Herbaria of Kew and the British Museum, which, from lack of opportunity, have only been examined for specially interesting species.

Had the thousands of pages of manuscript and letters collected by Mr. J. Burtt Davy and myself been analysed before Mr. F. A. Lees was compelled to go to press with his *Outline Flora of Lincolnshire*, in the 5th ed. of White's *Gazetteer*, these articles would never have been penned; for then that admirable little sketch would have clearly and fully imaged all that is known of our botany. As a matter of fact it falls short of our present standard of information in some respects through no fault of its learned author, who did more than his best with the information at command in the limited time at his disposal.

I am greatly indebted for the fulness of this list to scores of correspondents, who shall be thanked by name in the proper place. Here I wish more especially to make an acknowledgment of many invaluable services received from Mr. J. Burtt Davy, Mr. Arthur Bennett, Mr. F. A. Lees, and the Rev. William Fowler, who have repeatedly given me all the help in their power. The initials of all these gentlemen will be found in brackets where they have verified published localities and specimens for me.

At present (i.e., December 1893) the *Locality Register* contains about 50,000 old and new records, the latter representing specimens mostly in private hands; and *The County Herbarium*, a public collection finally to be housed in Lincoln, contains between 3,000 and 4,000 proof and type specimens. I am engaged daily in collecting for its

shelves everything of value for *The Flora of Lincolnshire*, still to be written. My reason for publishing at the present time is to spread abroad a catalogue of what is wanting to make it complete.

After this series of articles has been printed off, I hope to contribute an annual paper of 'additions and corrections' after each season's work has been verified, to keep *The Naturalist* record up to date. As no labour, pains, or time have been spared to make these papers accurate and complete in every respect, will anyone who detects the slightest omission or slip communicate the fact to me at once, please?

Had our old contributor, Mr. J. Burtt Davy, been in England to make suggestions and add further information, his name, on account of the work he has done, would very properly have stood before mine as joint author. But unfortunately his ill-health and the great distance of California has prevented him seeing the manuscript, which therefore goes forth with my name only attached to it and on my sole responsibility, though so much of the first unanalysed draught was the result of the labour which broke down his health.

Lincolnshire forms the whole East Trent Sub-province of the late H. C. Watson's *Topographical Botany* distribution of our river basins. It is sub-divided into the Vice-counties North Lincoln 54 and South Lincoln 53, which are quoted in these articles under the initial letters **N.** and **S.** in bold black type. They are separated from each other, with perfect clearness, by the river Witham from Boston to Lincoln, and by the Foss Dyke from that city to the border of Nottingham.

When the plant names are printed in bold black type a Lincolnshire proof specimen or specimens, localised and dated, is known to exist. A dagger (†) after any of these names signifies that one or more specimens are in the *County Herbarium*. If this sign follows a vice-county sign or parish name the plants are from the localities so indicated. The names in smaller type are those of recorded plants, but for which at present no proof specimen is known to exist. The number after the vice-county letters **N.** and **S.** refers to the number of parishes in each division where the plant has been recorded as growing, or has been seen or gathered. In some few cases the personal mark (!) of verification and date are added to show when I last saw them. By a *District*—generally contracted into *Dist.*—I mean a radius of ten miles from the place named, by a *neighbourhood*—generally contracted *neigh.*—a radius of five miles. The dates appended are either those on the proof specimen, or of first publication, or the *middle period* of the life of a worker is given to the study of our plants. Dr. T. P. J. Grantham was at Burgh-in-the-

Marsh from 1834 to 1866; his *middle period*, therefore, unless I have other proof, is 1850. I use the words *native* and *alien* merely to signify whether plants are natural to this county or not.

When the words *common* or *very common*, or such like phrases, occur as applied to the distribution and frequency of species the phrase *in suitable situations and soils* is always to be understood by the reader. For *Bellis perennis* L., generally so common everywhere, is hardly ever found on the peaty soils of our fens and carrs; and when it is, only as an introduced and impermanent species. Nearly every other plant is liable to similar exceptions. But as any good *Flora* will indicate the likely situation and soil, I shall not burden the pages of *The Naturalist* with such unimportant details for our common species.

A full list of the public and private Herbaria quoted, with the present owners' full names and addresses, together with any other useful information that time may indicate, with numerical summaries of species, native and alien, and varieties, are reserved for the final paper of the series.

RANUNCULACEÆ.

Clematis vitalba L. Alien in N.—9. S.—‘Doubtfully native on the Oolites at best’; Mr. F. A. Lees. ‘Morton and elsewhere’; Rev. Joseph Dodsworth. Herb. Brit. Mus. and Simpson Coll.

Thalictrum maritimum Syme.† Native in N.—6. S.—No record.

Thalictrum flavum L.† Native. Common N. and S. I have not gone into the question of the varieties of this species yet.

VAR. *RIPARIUM* Jord. S.—Cross and Drove drains; Mr. W. H. Beeby thought he saw it there. *Journ. Bot.*, 1884, p. 18.

Anemone Pulsatilla L.† Native. N.—Broughton Wood; Rev. W. Fowler, B.R.C., 1875. S.—6. But dying out both N. and S. I fear.

Anemone nemorosa L.† Native. Fairly common in N. and S.

VAR. *rubra* Pritzel.† N.—Bottesford† and elsewhere, 1892.

Anemone ranunculoides L. A planted alien. S.—Fulbeck, ‘planted about fifty years ago and still there’; Mr. J. Burtt Davy, 1892. Fisher Herb.

Anemone apennina L. Another planted alien. N.—Brocklesby Park; Dr. R. Boustead, 10-4-1862. Herb. Brit. Mus. Hundon by Caistor; Mr. James Britten, 1862. S.—Fulbeck; Dr. T. Bevan Rake, 4-1853. ‘Planted at the same time as *A. Ranunculoides*’; Mr. J. Burtt Davy.

MYOSURUS MINIMUS L. LINCOLNSHIRE, in the Hundred of Skirbeck; most probably in **N.**, but the point cannot be settled unless specimens are found. Pishey Thompson's *History and Antiquities of Boston*, etc., 1856. I am afraid he is always a very doubtful authority to quote, unless supported by earlier or later evidence.

For the *BATRACHIAN RANUNCULI* I have followed the arrangement suggested and used by my friend, Mr. F. A. Lees, in *The Flora of West Yorkshire*. Every other arrangement makes 'confusion worse confounded' to me in my efforts to study their difficult and intricate connections. To make matters more difficult than usual, the dry season of 1893 has apparently changed the characteristics of species that I have been studying *in situ* for the last three years.

Ranunculus heterophyllus Fr.† Native. **N.**—Louth† and Keddington.† Messrs. Bogg, 1856 (F.A.L.). **S.**—Doddington.† Rev. R. E. G. Cole, 1864 (Ar. B.).

STATUS **submersus** Bab.† Native. **N.**—Louth.† Messrs. Bogg, 1856 (F. A. L.).

FORMA **Drouetii** Schultz.† Native. **N.**—5. **S.**—Careby and Five Mile Station;† Rev. W. Fowler (Nearly all these specimens have been verified by F. A. L.).

Ranunculus peltatus Fr.† Native. **N.**—Minting; Mrs. Jarvis. Saxilby; Mrs. Newman, in her Coll. **S.**—Above Boston in Witham; Watson Herb. Bourn †; Rev. J. Dodsworth, circâ 1840 (F. A. L.).

FORMA **penicillatus** Dum.† Native. **N.**—River Bain, Louth.† Messrs. Bogg, 1856 (F. A. L.). **S.**—Foss Dyke, Lincoln; Mrs. Newman, in her Coll., 1888 (Ar. B.).

STATUS **pseudo-fluitans** Hiern. † Native. **N.**—Catchwater Drain, Cadney†; Mr. Job Richardson, 1893 (F. A. L.).

VAR. **floribundus** Bab.† Native. **N.**—Cadney†, 1893. Brigg; Mr. F. A. Lees, 1893. **S.**—Doddington; Rev. R. E. G. Cole, 1864. Five Mile Station †; Rev. W. Fowler, 1893.

STATUS **cæspitosus** Thuill. Native. **N.**—Wainfleet; Rev. W. Fowler. Herb. Brit. Mus.

Ranunculus Baudotii Godr. Native. **N.**—Skegness; T. Bates Blow, 1874. Herb. Brit. Mus. (W. F. again 1877). Burgh-in-the-Marsh District, near sea; Dr. Grantham, in his coll., circâ 1850. **S.**—H. C. Watson's *Top. Bot.*, 'Fowler rec.'

- FORMA marinus** Fr. Native. **N.**—Great Cotes; Rev. W. Fowler, 1878. Herb. Brit. Mus.
- VAR. confusus** Godr. Native. **N.**—Burgh-in-the-Marsh District, by the sea; Dr. Grantham, in his coll., circâ 1840.
- Ranunculus fluitans** Lamk. Native. **N.**—Tattershall: Rev. W. Fowler, 1877. Herb. Brit. Mus.
- Ranunculus trichophyllus** Chaiz.† Native. **N.**—8. **S.**—Littleworth; Mr. W. H. Beeby, *Jour. Bot.*, 1884, p. 18.
- Ranunculus circinatus** Sibth.† Native. **N.**—5. **S.**—H. C. Watson's *Top. Bot.*!
- Ranunculus hederaceus** L.† Native. **N.**—5. **S.**—North Moor, Beckingham; Rev. W. Fowler, 1879; Doddington†; Rev. R. E. G. Cole, 1862.
- Ranunculus sceleratus** L.† Native. Common **N.** and **S.**
- Ranunculus Flammula** L.† Native. Common in **N.** **S.**—4.
- Ranunculus Lingua** L.† Native. Once common enough, now dying out slowly but surely. **N.**—8. **S.**—9.
- Ranunculus auricomus** L.† Native. Common in **N.** **S.**—Not so common apparently. I have seen typical specimens from **N.**—Holme Wood, Bottesford, 1893. **S.**—Doddington; Rev. R. E. G. Cole, 1892.
- STATUS apetalus** Wallroth.† (i.e., **depauperatus** Hook. f.) Native. **N.**—5. **S.**—Thurlby and Bourn Woods. 'Often without petals in the early part of the season, and frequently with only one or two'; Rev. J. Dodsworth, 8.5.1838. This is the first record for Britain, I believe. In the truly apetalous form the sepals become wholly yellow as the petals if present would be, and in **N.**—Howsham show a tendency to become quite glabrous, but always remain more or less furrowed.
- Ranunculus acris** L.† Native. Common in **N.** and **S.** I have not gone into the question of varieties yet.
- STATUS plenus** (i.e. 'double-flowered'). **N.**—Woodhall. **S.**—South Common, Lincoln. Both observed by Mrs. Newman, and in her Coll.
- Ranunculus repens** L.† Native. Common in **N.** and I believe so in the **S.**
- STATUS plenus.**† Native. **N.**—Hatton †; Mrs. A. E. Jarvis.
- Ranunculus bulbosus** L.† Native. Common in **N.** and **S.**
- Ranunculus hirsutus** Curtis.† Native in **N.**—6. No record for **S.**

Ranunculus parviflorus L.† Native or colonist. **N.**—Wainfleet; E. Oldfield's *Top. and Hist. Account of Wainfleet, etc.*, 1829. Hatton and Wragby†; Mrs. A. E. Jarvis, 1890. **S.**—Witham fields and Careby stonepit; Rev. J. Dodsworth, 6, 1838. **N.** and **S.**; H. C. Watson's *Top. Bot.*

Ranunculus arvensis L.† Native. Common **N.** and **S.**

Ranunculus Ficaria L.† Native. Common **N.** and **S.**

FORMA **incumbens** F. Schultz.† **N.**—Louth†; Messrs. Bogg, 1856. South Kelsey! and Cadney! both 1893.

Caltha palustris L.† Native. Common **N.** and **S.**

Helleborus viridis L.† A garden escape. It is grown for 'rowelling' horses and cattle. **N.**—3. **S.**—2.†

Helleborus fœtidus L.† The same as last. **N.**—3.

Eranthis hyemalis Salisb.† An alien well established in places. Generally introduced with garden soil. **N.**—6.† **S.**—2.

Aquilegia vulgaris L.† If originally introduced now quite naturalised in localities wide apart. **N.**—7.† **S.**—4.†

Delphinium ajacis Reich.† Alien. Introduced with seed corn. **N.**—Hundleby; Dr. J. T. Burgess' *Paintings*. **S.**—Doddington,† plentifully; Rev. R. E. G. Cole, 28-7-1862.

The *DELPHINIUM CONSOLIDA* L. of Mr. J. Britten's list in White's *Gazetteer* is only a slip in nomenclature for *D. ajacis*, I believe.

Aconitum napellus L.† A garden escape or purposely planted. **N.**—4. The only place where it looks like a native is on the Pingle Farm, Bigby,† where it grows plentifully in the hedges; Mrs. Bates.

BERBERIDEÆ.

Berberis vulgaris L.† Native on the Nottingham borders probably, but more than doubtful elsewhere. **N.**—8. **S.**—Dodding†; Rev. R. E. G. Cole, 4-7-1856.

Mahonia aquifolium T. & G.† A bird-sown garden alien where I have found it, but I am told often sown in woods, as pheasants greedily feed on its fruit. **N.**—Bottesford,! 1892. Cadney,† 1893.

NYMPHÆACEÆ.

Nuphar luteum Sm.† Native. Common in **N.**, and I imagine equally so in **S.**, but I have no proof.

Nymphæa alba L.† Native. Not uncommon **N.** and **S.**, but very often introduced years ago in the 'ornamental sheet of water' day. But on such places as **N.**—Scotton and Manton Commons we need not question it.

PAPAVERACEÆ.

Papaver somniferum L. An escaped alien. **N.**—Mablethorpe; Mr. J. Burt Davy, 1885. Coningsby; Rev. F. S. Alston, 1893.

VARS. **hispidum** H. C. W., and **glabrum** H. C. W. **N.**—Mablethorpe; 'a well-established colonist and plentiful'; Mr. H. Fish, 8-1887. Fisher Herb.

Papaver Rhœas L.† Native. Common on sandy and 'light soils,' **N.** and **S.** The following colour varieties are preserved in the County Herb.:—**N.**—Hatton; Mrs. Jarvis—a light mauve. **N.**—Wispington; Rev. F. S. Alston—a dark purple. The purely scarlet and the scarlet with a dark purple spot on each petal are often found in the same patch of plants.

VAR. **strigosum** Boenn. **N.**—Rasen; Rev. W. Fowler, 1877. Herb. Brit. Mus.

Papaver dubium Lamot.† Native. Fairly common **N.** and **S.**

VAR. *LECOQII* Lamot. **S.**—In a cornfield between Littleworth and the South Drove Drain; Mr. W. H. Beeby, *Jour. Bot.*, 1884, p. 18. The sap was yellow but capsule scarcely satisfactory. The true variety will turn up, I do not doubt, as it was common enough in Northamptonshire! in 1886-90, and looked native enough.

Papaver Argemone L.† Native. Fairly common **N.** and **S.**

VAR. **glabrum** F. A. Lees. **N.**—East of Rasen, on greensand, more abundant than *P. Argemone* or *P. Rhœas*; Mr. F. A. Lees, B.R.C., 1877. He notes:—'Stem-leaves grey and glaucous underneath when growing! Mature capsules often quite glabrous.' Ulceby-cum-Fordington; Mr. J. Burt Davy, *Nat.*, 1891, p. 41. Brit. Mus. Herb.

PAPAVER HYBRIDUM L. Alien. **N.**—Sawcliffe; Rev. W. Fowler, *Nat.*, 1889, p. 353.

MECONOPSIS CAMBRICA Vig. An alien, or garden escape. **N.**—Gainsborough neighb.; Rev. R. H. Charters' MSS.

GLAUCIUM FLAVUM Crantz. Recorded for **N.**—Mablethorpe; Mr. J. Larder, *Wesley Naturalist*, 1887, p. 283. Skegness; Mr. F. A. Lees' *Outline Flora*. He adds in a footnote: 'Ticked by me in an early-made Catalogue of Plants seen in Lincs. (for Skegness Sands), but no specimen kept, and I have no clear recollection of the fact. It occurs at Brancaster and Holme Point, Norfolk, twelve miles off, across the Wath.—F. A. L.'

Mr. Larder's record was certainly a mistake, and Mr. Lees was doubtful, as his record shows.

Chelidonium majus L.† Native or denizen. **N.**—Common.
S.—Apparently rarer.

FUMARIACEÆ.

CORYDALIS SOLIDA Hook. A mere garden escape. **N.**—Spilsby, 5-1879; figured in Dr. J. T. Burgess' *Paintings of Lincolnshire Plants*. Hundon by Caistor; Mr. J. Britten, 1862. Dr. R. M. Bowstead says, 'certainly introduced.' **S.**—Billinghay; Mrs. Walker, 1893.

CORYDALIS LUTEA DC. The same as last. In Mr. J. Britton's *List*. In what parish?

Corydalis claviculata DC.† Native. **N.**—8. **S.**—Harrowby by Grantham. 'Very rare' and dying out, 1877; Mr. H. Fisher.

FUMARIA BORÆI Jord. In the Brit. Mus. Herb., a specimen so named is to be found, sent in through the B. R. C., by the Rev. W. Fowler, from **S.**—Carlby; 'out of an old quarry on the Oolite.' It is marked '*officinalis*, C. C. B.'; i.e. by Professor Babington of Cambridge. This specimen requires further study.

Fumaria officinalis L.† Native. Fairly common **N.** and **S.**

Fumaria Vaillantii Loisel. Native? **S.**—Near Ancaster Station; Rev. G. S. Streatfield, 1872. Herb. Brit. Mus. It should be noted that the proximity of a railway station, mill, or factory always throws a shadow of doubt across the mind as to whether a good find is a native or not.

CRUCIFERÆ.

Cheiranthus Cheiri L.† Alien. **N.**—7. Old walls, chalk pits, etc.

Nasturtium officinale R.Br.† Native. Common **N.** and **S.**

Nasturtium sylvestre R.Br.† Native. **N.**—5. **S.**—2.

Nasturtium palustre DC.† Native. **N.**—4. **S.**—5.

Nasturtium amphibium R.Br.† Native. **N.**—2. **S.**—7.

Barbarea vulgaris R.Br.† Native. Common **N.** and **S.**

Barbarea stricta Andrz.† Colonist. **N.**—Cadney, by drain-sides.† Brigg, Ancholme Bank; B. R. C. 1877. **S.**—Corby, ditch-side; B. R. C. 1877.

Barbarea præcox R.Br.† An escape. **N.**—Kirton-in-Lindsey,† 1893; E. A. W. Peacock. Hatton, 1890; Mrs. Jarvis.

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PHANEROGAMIC BOTANY, 1889.

THE present instalment, which is compiled and edited by

W. DENISON ROEBUCK, F.L.S.,

comprises the record of botanical activity in the North of England for a single year, so far as concerns the flowering plants. Records for Ferns and Fern-Allies, which have hitherto been included in the phanerogamic bibliography are now and will henceforth be excluded, with a view to their being treated separately. Previous instalments of the botanical bibliography have been published as follows:—

For 1884,	in 'Naturalist,'	Sep. 1885,	pp. 331-336.
„ 1885,	„	June 1886,	pp. 174-179.
„ 1886,	„	Dec. 1890,	pp. 359-374.
„ 1887,	„	April-May 1891,	pp. 125-133.
„ 1888,	„	June 1891,	pp. 189-199.

The counties included are the Watsonian vice-counties of Cheviotland, Northumberland S., Durham, York N.W., N.E., Mid W., S.W., and S.E., Linc. N. and S., Notts, Derby, Cheshire, Lanc. S. and W., Westmorland with Furness, Cumberland, and Isle of Man.

ANON. [various observers].

Derbyshire.

Calendar of Nature, 1879 [about Burton-on-Trent: dates given for nearly all the commoner plants]. 4th Ann. Rep. Burton-on-Trent Nat. Hist. and Arch. Soc., 1880, pp. 67-70.

ANON. [various observers].

Derbyshire.

Calendar of Nature for 1882 [near Burton-on-Trent; giving dates for *Bellis*, *Scilla*, *Aconitum* (Odstone Hill), *Sambucus nigra* (Drakelow), *Crutegus* (Bretby), *Ribes grossularia* and *Ranunculus* (Catton), *R. ficaria*, *Tussilago*, *Viola*, *Mercurialis* (Bretby), *Cardamine pratensis* (Bretby), *Fragaria vesca* (Bretby), *Æsculus* (Stanton), *Prunus spinosa* (Stapenhill), *Tilia*, *Fraxinus*, *Fagus*]. 7th Ann. Rep. Burton-on-Trent N. H. and Arch. Soc., year ending 31st March, 1883, p. 14.

ANON. [not signed].

Cheshire.

Field Meeting at Storeton Quarries.—May 21st, 1887 [*Polygala vulgaris*, *Teesdalia*, *Oxalis acetosella*, *Adoxa*, *Valerianella olitoria*, and *Ajuga reptans* noted as found]. Liverpool Sci. Stud. Ass., Ann. Rep. for 1887-88, p. 11.

ANON. [not signed].

Cheshire.

Field Meeting at Heswall, Sep. 17th, 1887 [*Gentiana pneumonanthe*, *Narthecium ossifragum*, *Tanacetum*, and *Drosera* mentioned as found]. Liverpool Sci. Stud. Ass., Ann. Rep. for 1887-88, p. 13.

- ANON. [not signed]. Westmorland.
Field-Meeting of the Kendal Natural History Society [at Longsleddale, August 2nd; *Anchusa sempervirens*, *Meconopsis cambrica*, *Spiræa salicifolia*, *Campanula glomerata*, *C. latifolia*, *Cnicus heterophyllus*, *Stipa pennata*, *Saxifraga hypnoides*, *S. stellaris*, *Epilobium alsinifolium*, *Chrysosplenium oppositifolium*, *Sax. aizoides*, *Alchemilla alpina*, *Teesdalia*, *Oxyria digyna*, *Cochlearia alpina*, *Crepis paludosa*, two *Hieracia*, *Hymenophyllum unilaterale*, *Sedum rhodiola*, *Vaccinium vitis-idaea*, and *Rubus chamaemorus*, mentioned as seen or not seen]. Westm. Note Book and Nat. Hist. Record, Vol. i. part 3, Sept. 1888, pp. 64-65.
- ANON. [not signed]. York Mid W.
Holling Hall, Ilkley [being copy of ancient document, dated 1592, being sworn depositions of John Langfellowe, as to the Manors of Ilkley and Hollinghall, with incidental mention of Thornes (*Cratægus oxyacantha*), and Hollings (*Ilex aquifolium*) growing by the side of Nicholtriddinge Gill]. Yorksh. N. & Q., Part 13, Oct. 1888, pp. 25-26.
- ANON. [not signed]. Cumberland.
Leeds Naturalists' Club and Scientific Association [list of 30 plants collected at Seascale]. Research, Oct. 1888, p. 62.
- ANON. [Sec. Liverp. N. F. C.] York Mid W., Lanc. S., Chesh., Derbysh.
Excursions and Evening Meetings [of Liverpool Nat. F. Club in 1888; notes on plants at Meols and West Kirby, 5th May, at Ince and Ellesmere Port, 26th May, at Ingleton, 13th June, at Speke and Hale, 30th June, at Millersdale and Buxton, 12th July, at Bidston Hill, 2nd August, at Scarth Hill and Ormskirk, 8th September, at Puddington, 22nd September, and at Raby Mere and Bromsborough, 6th October.] Proc. Liverp. Nat. F. Club for 1888 (pub. 1889), pp. 25-36.
- ANON. [not signed]. Lanc. S.
Liverpool Naturalists' Field Club [at Kirkby, near Liverpool, May 9th, 1889; discovery of several patches of *Ranunculus auricomus*]. Research, June 1889, p. 230.
- ANON. [not signed]. York S.W.
Sheffield as a Centre for the Naturalist [referring to *Helleborus viridis*, *Convallaria majalis*, *Paris*, *Vinca minor*, *Gagea lutea*, and *Euonymus europæus* at Roche Abbey, *Fritillaria* at Sandbeck Park, etc.]. Wesl. Nat., July 1889, pp. 145-147.
- ANON. [not signed]. Lanc. S.
Liverpool Naturalists' Field Club [at Barton, Haskayne, and Formby, July 6th, 1889; *Utricularia vulgaris*, *Trifolium filiforme*, *Ranunculus lingua*, *Myriophyllum verticillatum*, *Hottonia*, *Pedicularis palustris*, and *Alisma ranunculoides* noted]. Research, Aug. 1889, p. 43.
- ANON. [not signed]. York Mid W.
Liverpool Naturalists' Field Club [at Bolton Abbey and Woods, July 18th, 1889; *Campanula latifolia*, *Eupatorium cannabinum*, *Thalictrum flexuosum*, *Paris*, *Geranium pratense*, *Valeriana officinalis*, *V. dioica*, *Scabiosa arvensis*, *Gymnadenia conopsea*, *Sanguisorba officinalis*, and *Sambucus nigra* noted]. Research, Sep. 1889, p. 71.
- ANON. [not signed]. Cheshire.
West Kirby Naturalists' Society [at Burton-on-the-Dee, Aug. 10th, 1889; *Euphrasia officinalis*, *Mentha aquatica*, *M. sylvestris*, *M. arvensis*, *Solanum dulcamara*, *Ballota nigra* (common), *Marrubium*, and *Teucrium scorodonia* noted]. Research, Sep. 1889, p. 71.
- ANON. [not signed]. Lanc. S.
Liverpool Naturalists' Field Club [at Ashurst Beacon, Aug. 10th, 1889; *Polygonum persicaria*, *Parietaria officinalis*, and *Lamium album* noted]. Research, Sep. 1889, p. 71.

- ANON. [not signed]. Westmorland.
Orobanche major in Westmorland [found at Hutton by Mr. Wright, the finder of *Lastrea thelypteris*; it was growing on roots of *Sarothamnus scoparius*; article concludes with a suggestion to look for *Lemna trisulca*, which has not been seen in Westmorland since Lawson's time]. Westm. Note Book and Nat. Hist. Record, Sep. 1889, p. 148.
- ANON. [not signed]. York Mid W.
York, The Mount. Natural History Society [at Askham Bog, Aug. 31st, 1889; *Ranunculus lingua* and *Parnassia*]. N. H. J., Sep. 15th, 1889, p. 105.
- ANON. [not signed]. York Mid W.
Rarities [at Harrogate; *Helleborus viridis*, *Atropa belladonna*, *Cynoglossum officinale*, *Ballota nigra*, *Echium vulgare*, *Campanula latifolia*, *Corydalis claviculata*, *Geranium sanguineum*, *Parietaria*, *Paris*, and *Typha latifolia*]. N. H. J., Sep. 15th, 1889, p. 110; and erratum, Dec. 15th, 1889, p. 168.
- ANON. [not signed]. Lanc. S., York S.W.
Societies and their Work [Manchester Field Naturalists in Todmorden Valley found *Campanula rotundifolia* and *Euphrasia officinalis*]. Research, Oct. 1889, p. 92.
- ANON. [not signed]. Lanc. S.
Manchester Microscopical Society [at Hurst and Lees; *Nuphar lutea* noted]. Research, Oct. 1889, p. 94.
- ANON. [not signed]. Isle of Man.
Excursion to Sulby Glen [Isle of Man], Aug. 28th, 1889 [noting White Heather (*Calluna vulgaris*) on Karran, and *Pinguicula* from near Killabragga]. Proc. I. of Man N. H. S.; Yn Lioar Manninagh, No. 4, Oct. 1889, i. 96.
- ANON. [signed 'W. B. B.']. York S.W. and N.E., Cumberland.
Ackworth Natural History Society [*Scabiosa succisa* (white), Went Hill, J. Neale; *Atropa* and *Agrimonia* near Rievaulx, of latter two plants growing close together, both in flower, one 4 feet, the other 2 inches high, Isabella Hall; and Yews (*Taxus*) of Borrowdale, W. D. Braithwaite]. N.H.J., Oct. 15th, 1889, p. 124.
- ANON. [not signed]. Lanc. W.
Liverpool Naturalists' Field Club [at Knowsley, Sep. 21st; *Rumex obtusifolius* noted]. Research, Nov. 1889, p. 114.
- ANON. [not signed]. Isle of Man.
Manx Natural History and Antiquarian Society [at Sulby, Sep. 28th, 1889; 31 plants and ferns mentioned by their English names]. Research, Nov. 1889, p. 115.
- H. COOPER ABBS. York N.W., Northumberland S., Cheviotland.
[Presidential] Address to . . . the Tyneside Naturalists' Field Club . . . May 24th, 1886 [*Carduus eriophorus*, *Sanicula*, *Asperula*, *Galium mollugo*, and *Caltha* noted about Askrigg, 24th June, 1885; *Pyrus aucuparia*, *Prunus padus*, *Fragaria vesca*, *Juniperus communis*, *Spiraea ulmaria*, *Thymus serpyllum*, *Cardamine pratensis*, *Potentilla tormentilla*, *Polygala vulgaris*, *Anemone nemorosa*, *Viola tricolor*, *Saxifraga hypnoides*, noted by Faraday Spence as growing within the 'Buttertubs,' 25th June, 1885; *Saxifraga tridactylites*, *Myrrhis*, and *Cardamine amara* noted by R. Howse between Askrigg and Hawes; *Helianthemum canum*, *Saxifraga granulata*, *S. hypnoides*, *Myrrhis*, *Trollius*, *Primula farinosa*, and *Orchis ustulata* noted in or near Semerdale, 26th June, 1885; *Circaea lutetiana* noted on the banks of Coquet near Warkworth, 17th July, 1885]. Nat. Hist. Trans. Northumb. Durh. and Newc., Vol. 8, part 3, 1889, pp. 326-346.
- F. W. A[NDREWS]. Derbyshire.
Calendar of Nature, 1884 [at Burton-on-Trent; dates given for *Tussilago*, *Ranunculus aquatilis*, and *R. sceleratus*]. 9th Ann. Rep. Burton-on-Trent N. H. & Arch. Soc. for 1884 (pub. 1885), pp. 23-25.

- F. W. A[NDREWS]. Derbyshire.
Calendar of Nature, 1885 [near Burton-on-Trent; dates given for *Ranunculus ficaria* (Bretby)]. 10th Ann. Rep. Burton-on-Trent N. H. & Arch. Soc. for 1885 (pub. 1886), pp. 21-24.
- OLIVER V. APLIN. Notts.
In Sherwood Forest [an ornithological paper, but with a paragraph on the 'Hayward Oaks,' near Blidworth]. Midl. Nat., April 1889, p. 86.
- T. H. ARCHER-HIND. Cheviotland, York N.W. and S.W.
New Plants for Northumberland [*Geranium pyrenaicum* near Lowlynn, *Scheuchzeria palustris* on the coast; reference made to Yorkshire stations, Lakeby (? Leckby) Carr and Thorne Moor, for last-named]. Proc. Berw. Nat. Club for 1888 (pub. 1889), vol. 12, p. 394.
- J. E. BAGNALL. Derbyshire.
[Review of] A Contribution to the Flora of Derbyshire. By the Rev. W. H. Painter [which is noticed in some detail, so far as regards *Rubus* and *Salix*]. J. of Bot., Oct. 1889, pp. 318-319.
- J. G. BAKER. York North.
[Exhibition of a curious variety of *Vicia sepium* found in North Yorkshire]. Linn. Soc., Dec. 6, 1888; Zool., Jan. 1889, p. 36.
- J. G. BAKER. York Mid W.
Plants of the Infer-Arctic Zone on Ingleborough and Penyghent [giving lists of the plants growing at specified altitudes on the two hills, at three stations each]. Nat., Nov. 1889, pp. 321-322.
- J. G. BAKER. York Mid W.
On the Varieties of *Arenaria ciliata* [and account of a personal visit paid to the Ribbleshead station, where *A. gothica* occurs with *A. serpyllifolia* and *Tussilago*, and a confident opinion expressed that *A. gothica* may afterwards be found in other stations in the vicinity]. Nat., Nov. 1889, pp. 337-339.
- A. BENNETT. Cumberland.
On *Calamagrostis strigosa* (Hartman) as a British Plant, and two *Carex* Forms new to Scotland, etc. [also noting *Carex elongata* L., hitherto with a northern limit in Cumberland, as found in Kirkcudbrightshire]. Trans. Bot. Soc. Edinb., vol. 16, part 3 (1886), p. 316.
- ARTHUR BENNETT. Derbyshire, Lanc. S., Durham, Cheshire,
York N.W. and N.E.
Notes on the British Species of *Epilobium* [including notes on *E. parviflorum* × *roseum* = *E. persicinum* Rchb., Derbyshire (Herb. Hooker); *E. montanum* form i. *verticillatum*, Derbyshire (Babington); *E. obscurum* × *palustre* = *E. schmidtianum* Rostkov., Liverpool (Harbord Lewis, as *obscurum*); Teesdale (Babington, as *virgatum*); Thirsk (Baker (*E. ligulatum* Baker)); Hale Moss, Cheshire; *E. obscurum* × *parviflorum* = *E. dacicum* Borbas, Cheshire (Bailey); *E. palustre* × *parviflorum* = *E. rivulare* Wahl., Teesdale (Babington); and *E. alsinifolium* × *palustre* = *E. haynaldianum* Haussk., Weltrope, in Durham, leg. Baker; referred to as hybrids noted in Haussknecht's Monograph of *Epilobium*, 1884]. Trans. Bot. Soc. Edinb., vol. 17, part i. (1887), pp. 47-50.
- ARTHUR BENNETT. York S.W.
***Geranium macrorrhizum* and *Carex gibsoni* in West Yorkshire** [giving notes on the history of the two plants; the first is from 'Washerlane, near Halifax']. Nat., March 1889, p. 80.
- A. BENNETT. Westmorland.
A Hybrid *Epilobium* [*E. obscurum* × *parviflorum* forma *minor*, gathered at Dufton in 1887 by Prof. Oliver]. Westm. Note-Book and Nat. Hist. Record, vol. i. part 5, March 1889, p. 108.

- ARTHUR BENNETT. Westmorland and Furness.
Record of Plants, additional to those in the 2nd Ed. of Topographical Botany for the county of Westmorland [giving the names of 67 species and their stations; also including the names of 18 plants which should be searched for or confirmed]. Westm. Note-Book and Nat. Hist. Record, vol. i. part 6, June 1889, pp. 129-134.
- FRANCIS G. BINNIE. York Mid W.
List of Cecidomyidæ found near Tadcaster [mentioning *Polygonum persicaria*, *Salix alba*, *S. viminalis*, *Vicia cracca*, *Cratægus oxyacantha*, *Veronica chamaedrys*, *Galeobdolon*, *Urtica dioica*, *Spiræa ulmaria*, *Nepeta glechoma*, *Rosa canina*, *Heracleum sphondylium*, *Hieracium pilosella*, *Fraxinus excelsior*, *Fagus sylvatica*, and *Salix capræa* as host-plants, with localities]. Nat., April 1889, pp. 101-102.
- E. BIRCHALL. Isle of Man.
[Statice armeria, in the Isle of Man, referred to as the food-plant of] *Ægoeria philanthi-formis*. Trans. Isle of Man N. H. S., vol. i. 1879-84 (publ. 1888), p. 13.
- W. D. BRAITHWAITE. York S.W.
Ackworth School Excursions [to Sprotborough, 29th May, *Ophrys muscifera*; to Byram Hall, June 1st, *Doronicum pardalianches*; to Potteric Carr, 24th August, *Hydrocharis morsus-ranæ*, *Rumex hydrolapathum*]. N. H. J., Oct. 15th, 1889, p. 125.
- A. BROWETT. Derbyshire.
[Polygala vulgaris from Buxton, exhibited to Birmingham N. H. S.] Midl. Nat., July 1889, p. 170.
- HORACE T. BROWN. Derbyshire.
A Chapter in the Physical Geography of the Past [with incidental mention that A. H. Green, surveying the carboniferous rocks of North Derbyshire, was often helped in defining boundaries of the Shales and Sandstones by the predilection of Rushes (*Juncus*) for Shales, and Heath (*Calluna* and *Erica*), Furze (*Ulex*) and *Viola lutea* for the Sandstones]. Trans. Burton-on-Trent Nat. Hist. and Arch Soc., vol. i., 1889, p. 38.
- ROBERT BROWN. Cheshire, York Mid W., Lanc. S.,
Cumberland, Westmorland.
Botanical Résumé [of notes made at the 1888 Excursions of the Liverpool Nat. F. Club, on 5th May at Meols and West Kirby, Cheshire, on 26th May at Ince and Ellesmere Port, Cheshire, on 13th June at Ingleton, Yorkshire, on 30th June at Speke Hall and Dungeon, S. Lancs., on 8th Sept. at Scarth Hill and Ormskirk, S. Lancs., on 22nd Sept. at Ledsham, Puddington, and Burton, Cheshire, and on 6th Oct. at Raby Mere and Bromborough, Cheshire; notes also given of the range of *Trollius* in Cumberland, Westmorland, Yorkshire, Lancashire, and Cheshire, and of *Meconopsis cambrica* in Westmorland]. Proc. Liverp. Nat. F. Club for 1888 (pub. 1889), pp. 37-44.
- ROBERT BROWN. Cheshire, Lanc. S., York Mid W.
Names of some of the Most Interesting Plants noticed [by Liverpool N. F. C.] during the Excursions in 1888 [enumerating 18 species for Meols and West Kirby, Cheshire, 5th May, 16 for Ince and Ellesmere Port, Cheshire, 26th May, 39 for Ingleton, 13th June, 29 for Speke and Hale, S. Lanc., 30th June, 8 for Scarth Hill and Ormskirk, S. Lanc., 8th Sept., 13 for Ledsham and Puddington, Cheshire, 22nd Sept., and 10 for Raby Mere, Cheshire, 6th October]. Proc. Liverp. Nat. F. Club for 1888 (pub. 1889), pp. 45-48.
- ROBERT BROWN. Cheshire, Lanc. S.
Additional Localities to the Flora of Liverpool, found within the fifteen miles radius, and recorded in 1888 [giving stations for 38 plants]. Proc. Liverp. Nat. F. Club for 1888 (pub. 1889), pp. 49-52.

- FREDERICK CARR.** **Isle of Man.**
Rarities [*Scilla verna* in bloom on Douglas Head, Isle of Man, 25th April, 1889]. N. H. J., Sept. 15th, 1889, p. 110.
- MARY CARR.** **Cumberland.**
Flowers at Silloth [in July 1889; numerous species of *Erysimum*, *Saponaria*, *Camelina*, on new ground; *Reseda* (2), *Echium*, *Dipsacus*, *Melilotus* (3), *Bupleurum*, *Genista*, *Anthyllis*, *Medicago* (2), *Viola*, *Brassica*, *Erodium*, *Rosa*, *Geranium*, *Thalictrum*, *Lepigonum*, *Glaux*, *Silene*, *Triglochin*, *Plantago* (2), *Sedum*, *Armeria*, *Ononis*, *Eryngium*, *Salsola*, *Arenaria*, *Atriplex* (2), *Suaeda*, *Aster*, *Salicornia*, *Ornithopus*, *Vicia*, *Anagallis*, *Ballota*, *Peucedanum*, *Alyssum* (2), *Raphanus*, *Echinospermum*, and *Malva*; and at Grinsdale near Carlisle, *Senecio*, *Leonurus*, *Eupatorium*, *Thalictrum*, and *Alisma*]. N.H.J., Dec. 15th, 1889, pp. 171-172.
- J. W. CARTER.** **York Mid W.**
The Mildness of the Season [of 1889 and 1884; *Corylus avellana* flowered 13th Jan., 1884, but not seen to Jan. 20th, 1889]. Young Nat., Feb. 1889, p. 44.
- ABEL CHAPMAN.** **Cheviotland, Northumberland S., Durham.**
Bird-Life of the Borders [with notes (p. 55) as to *Rubus chamaemorus* and *Cornus suecica* on the Cheviots and (p. 181) as to *Zostera marina* on the coast-line].
- J. E. CLARK.** **'York.'**
The Mild Season [Hawthorn (*Crataegus*) in leaf near York, Jan. 27th and Feb. 1st]. N.H.J., Feb. 15th, 1889, p. 16.
- J. E. C[LARK].** **York N.E.**
Rarities [White Heath, *Erica tetralix*, Pilmoor, near York]. N. H. J., Sep. 15th, 1889, p. 110.
- JOHN CORDEAUX.** **Linc. N.**
A Day amongst the Birds on the Lincolnshire Coast [noting also *Hippophaë*, *Senecio jacobæa*, *Rubus saxatilis*, *Blysmus rufus*, *Ammophila arundinacea*, *Carduus nutans*, *Carlina vulgaris*, *Armeria maritima*, *Statice limonium*, *Atriplex arenaria*, *Aster tripolium*, *Salicornia*, and *Zostera*]. Field, Sep. 21st, 1889, p. 415.
- WILLIAM CROSS.** **Lanc. W.**
Among the Fylde Flowers. I.—Lytham and St. Annes-on-the-Sea [*Senecio jacobæa*, *Lythrum salicaria*, *Parnassia*, *Ammophila arundinacea* (local name: Starr Grass), *Salix repens*, *Monotropa hypopitys*, *Pyrola arenaria* (or *maritima*), *Oenothera biennis*, *Agrimonia eupatoria*, *Erythraea centaurium*, and *Gentiana* noted; *Pyrola maritima* and *P. rotundifolia* figured]. Wesl. Nat., Jan. 1889, pp. 322-324 and plate. [*Hippuris vulgaris*, *Caltha*, *Erophila verna*, *Saxifraga tridactylites*, *Ranunculus flammula*, *R. aquatilis*, *Parnassia*, *Alisma ranunculoides*, *Pedicularis palustris*, *Orchis incarnata*, *Epipactis palustris*, *Inula conyza*, *I. dysenterica*, *Erigeron acris*, *Gentiana amarella*, *G. campestris*, *Erythraea centaurium*, *E. littoralis*, *Chlora perfoliata*, *Anagallis tenella*, *Glaux*, *Samolus valerandi*, and *Anagallis arvensis* referred to]. Wesl. Nat., March 1889, pp. 5-9. [*Myosotis collina*, *M. versicolor*, *M. arvensis*, *M. palustris*, *M. sylvatica*, *Borago officinalis*, *Pulmonaria officinalis*, *Cynoglossum officinale*, *Lycopsis arvensis*, *Echium vulgare*, *Anchusa sempervirens*, *Symphytum officinale*, and eight species of *Veronica* noted]. Wesl. Nat., April 1889, pp. 33-37 and plate.
- WILLIAM CROSS.** **Lanc. W.**
Among the Fylde Flowers. . . . II.—The Woodlands [*Eranthis hyemalis*, *Helleborus fatidus*, *Ranunculus ficaria*, *Anemone nemorosa*, *Galanthus nivalis*, *Narcissus pseudo-narcissus*, *Arum*, *Convallaria majulis*, *Scilla nutans*, *Ornithogalum nutans*, *O. umbellatum*, *Paris*, *Ruscus aculeatus*, *Asparagus officinalis*, *Iris fatidissima*, *Orchis mascula*, *O. morio*, *O. maculata*, and *Listera ovata* referred to]. Wesl. Nat., June 1889, pp. 118-120.

G. C. DRUCE.

Derbyshire.

Review.—A Contribution to the Flora of Derbyshire. By the Rev. W. H. Painter [treated in some detail, with numerous references to Derbyshire plants, some being for species omitted by Mr. Painter, concluding with a list of 6 species mentioned in a copy of the Dillenian MS., in Library of Oxford Botanical Garden]. *Midl. Nat.*, Dec. 1889, pp. 282-285.

T. W. EDMONDSON.

York Mid W.

Spiræa Filipendula in Upper Airedale [near Eshton and Dibb Scarr, and *Eupatorium cannabinum* near Winterburn with *Carduus heterophyllus*, also near St. Helen's Well at Eshton, *Parnassia* and *Gentiana amarella*; *Polemonium*, *Draba incana*, and *Thalictrum minus* v. *montanum* on Dibb Scar near Grassington]. *Nat.*, Nov. 1889, p. 322.

H. LEATON EDWARDS.

Lanc. S.

Evening Excursion to Formby.—July 6th, 1887 [*Parnassia* and *Pyrola rotundifolia* noted]. *Liverpool Sci. Stud. Ass.*, Ann. Rep. 1887-88, p. 12.

J. W. ELLIS.

Cheshire.

Observations on the Unusual Abundance in 1888 of the Madder Hawk Moth [and a reference to the luxuriant growth of *Rosa spinosissima* on the Wallasey sandhills]. *Research*, June 1889, p. 222.

WILLIAM FOWLER.

Linc. N. and S.

Lincolnshire Sand and Clay Plants [enumerated according to their lithological preferences, to the number of about 146 species]. *Nat.*, Dec. 1889, pp. 353-355.

HILDERIC FRIEND.

Notts, York S.W.

The Flora of the District of Sherwood Forest and the Dukeries, including Anston Crags; numerous plants mentioned, mostly by English names]. *Sissons's 'Beauties of Sherwood Forest'*; a Guide to the 'Dukeries' and Worksop, 2nd Ed., 1888, pp. 131-135.

HILDERIC FRIEND.

York S.W. and Mid W., Cumberland.

English Mallows [with West Yorkshire and Cumberland localities the three native British species—also for *M. borealis* Wall. and *M. parviflora* L., aliens]. *Wesl. Nat.*, Feb. 1889, pp. 353-355.

HILDERIC FRIEND.

Cumberland.

Solway Dunes [at Silloth] in April [*Carex arenaria*, *Ranunculus ficaria*, *Sisymbrium thalianum*, *Cochlearia danica*, *Cardamine pratensis*, *C. hirsuta*, *C. flexuosa*, *Draba verna*, *Stellaria media*, *Lamium purpureum*, *Ulex europæus*, *Bellis*, and *Tussilago* mentioned as occurring]. *Sci. Goss.*, June 1889, p. 125.

HILDERIC FRIEND.

Cumberland.

Silloth in June [*Vicia bobartii*, *Viola curtisii*, *V. flavicornis*, *Carex arenaria*, *Xanthium spinosum*, *Lepidium smithii*, *Cerastium semidecandrum*, *Linum usitatissimum*, *Erysimum orientale*, *Sisymbrium pannonicum*, *Amsinckia lycopoides*, *Trifolium arvense*, *Anthyllis vulneraria*, *Geranium sanguineum*, *Cakile maritima*, *Rosa spinosissima*, *Plantago coronopus*, *P. maritima*, *Arenaria maritima*, *Eryngium maritimum*, *Scandix pecten*, *Camelina sativa*, *Lithospermum arvense*, *Gilia*, *Capsella bursa-pastoris*, and *Tussilago*, noted as occurring]. *Sci. Goss.*, July 1889, p. 156.

HILDERIC FRIEND [not signed].

Cumberland.

County Records [*Euphorbia esula* added to the Cumbrian Flora by W. Hodgson, and *Carex limosa* by H. Friend]. *Wesl. Nat.*, Oct. 1889, p. 230.

HILDERIC FRIEND [not signed].

Cumberland.

The Northern Mallow [(*Malva borealis* Wall.) established and in profusion in one place on the coast of Cumberland]. *Wesl. Nat.*, Oct. 1889, p. 231.

J. H. FRYER, Sec.

York N.E. and Mid W.

York, Bootham. Natural History Club [*Linaria cymbalaria* at Foss Islands, *Hypericum eloæs*, Pilmoor, *Sagina nodosa*, Strensall, *Salix pentandra*, Byland, *Carduus acanthoides* at Grimstone, first recorded in error as at Hagg Wood]. Nat. Hist. Journ., Nov. 15th, 1889, p. 151, and erratum, Dec. 15th, 1889, p. 168.

ROBERT GARNER.

Isle of Man.

Notes on the Natural History of the Isle of Man [mentioning a plant which might be the Tooth-wort, *Lathræa squamaria*]. Trans. Isle of Man N. H. S., vol. i. 1879-84 (publ. 1888), p. 89.

SAMUEL GASKING.

Isle of Man.

List of the Plants of the Isle of Man [a mere Enumeration of Scientific and English names, without indication of locality or other data; first instalment of 125, second of 127, third of 144, and final of 114. total 510 flowering plants, ferns and fern allies]. Research, April 1889, p. 172; May 1889, p. 211, Aug. 1889, p. 40, and Sep. 1889, p. 66.

F. J. GEORGE.

Lanc. S. or W.

Autumnal Flowering of *Mercurialis perennis* [near Preston, described, and name 'forma autumnalis' suggested]. J. of Bot., Jan. 1889, p. 22.

F. J. GEORGE.

Lanc. S.

Mercurialis perennis, form *Autumnalis* [flowering at Chorley, Lancs.]. Sci. Goss., Dec. 1889, p. 278.

T. GIBBS, JUN.

Derbyshire.

Calendar of Nature for 1882 [at Bretby near Burton-on-Trent; dates given for *Corylus*, *Ranunculus ficaria*, *Cratægus*, *Salix capræa*, *Lychnis diurna*, *Caltha*, *Anemone*, *Stellaria holostea* (Newton Road, Burton-on-Trent), *Quercus robur* (Repton Shrubs), *Ranunc. acris*, *Cardamine pratensis*, *Fagus*, *Pyrus malus*, *Fraxinus* (Hartshorne), *Alnus glutinosa*, *Populus nigra*, and *Rosa canina*]. 7th Ann. Rep. Burton-on-Trent N. H. and Arch. Soc., year ending 31st March 1883, pp. 16-17.

T. GIBBS, JUN.

Derbyshire.

Calendar of Nature, 1883 [at Bretby near Burton-on-Trent; dates given for *Sambucus nigra*, *Corylus*, *Lonicera* (Repton Shrubs), *Galanthus*, *Tussilago*, *Primula vulgaris*, *Mercurialis perennis*, *Cratægus* (Ashby Road), *Ranunculus ficaria*, *Taraxacum officinale*, *Æsculus*, *Anemone*, *Caltha* (Repton Shrubs), *Prunus cerasus*, *Populus nigra*, *Stellaria holostea*, *Cardamine pratensis*, *Prunus spinosa*, *Scilla nutans*, *Primula veris*, *Ranunculus*, *Veronica chamaedrys*, *Lychnis diurna*, *Galeobdolon*, *Orchis maculata*, and *Circæ lutetiana*]. 8th Ann. Rep. Burton-on-Trent N. H. and Arch. Soc., year ending 31st Dec. 1883 (pub. 1884), pp. 22-23.

T. GIBBS, JUN.]

Derbyshire.

Calendar of Nature, 1884 [at Burton-on-Trent; dates given for *Corylus* (Bretby Park), *Lonicera* (Repton Shrubs), *Mercurialis perennis* (Hoofie's Wood), *Ranunculus ficaria* (Bretby), *Cratægus* (Bretby), *Potentilla fragariastrum* (Bretby), *Anemone* (Bretby), *Lychnis diurna* (Bretby), *Scilla nutans* (Bretby), *Prunus cerasus* (Bretby), *Stellaria holostea* (Newton Road), *Cherophyllum tenulum* (Newton Road), *Oxalis* (Repton Shrubs), *Viola canina* (Repton Shrubs), *Nepeta glechoma* (Repton Shrubs), *Geum urbanum* (Ashby Road), *Veronica chamaedrys* (Ashby Road), *Cardamine pratensis*, *Primula veris*, *Pyrus malus* (Repton Rocks), *Ranunculus bulbosus* (Bretby), *Orchis mascula* (Bretby), *Geranium robertianum* (Bretby), and *Pyrus aucuparia* (Bretby)]. 9th Ann. Rep. Burton-on-Trent N. H. & Arch. Soc., for 1884, publ. 1885, pp. 23-25.

T. GIBBS.]

Derbyshire.

Calendar of Nature, 1885 [near Burton-on-Trent; dates given for *Corylus*, *Galanthus*, *Ranunculus ficaria*, *Mercurialis perennis*, *Cratægus*, *Tussilago*, *Potentilla fragariastrum*, *Primula vulgaris*, *Alnus*, *Ulmus*

Naturalist,

montanus, *Adoxa*, *Anemone*, *Æsculus*, *Caltha*, *Betula*, *Prunus cerasus*, *Ulmus*, *Tilia*, *Scilla nutans*, *Carpinus*, *Viola canina*, *Alnus*, *Lychnis diurnae*, *Prunus spinosa*, *Stellaria holostea*, *Fraxinus*, *Quercus*, *Fagus*, *Cardamin*, *pratensis*, *Ranunculus*, *Pyrus malus*, *Veronica chamædrys*, *Saxifraga granulata*, *Arum*, *Geranium robertianum*, *Fragaria*, *Ajuga*, *Galeobdolon*, *Vicia cracca*, *Galium cruciatum* (Sudbury), *Ranunculus aquatilis* (Sudbury), *Asperula*, *Bunium*, *Trifolium pratense*, *Sinapis arvensis*, *Heracleum sphondylium*, *Chrysanthemum leucanthemum*, *Sanicula*, *Sambucus nigra*, *Rhinanthus crista-galli*, *Lathyrus aphaca*, *Rosa canina*, *Galium verum* (Bretby), and *Campanula rotundifolia*]. 10th Ann. Rep. Burton-on-Trent N. H. and Arch. Soc. for 1885, pub. 1886, pp. 21-24.

T. GIBBS.

Derbyshire.

Calendar of Nature, 1887 [for Burton-on-Trent; dates given for *Corylus* (Bretby), *Ranunculus ficaria* (Bretby), *Cratægus*, *Potentilla fragariastrum* (Bretby), *Anemone nemorosa* (Repton Shrubs), *Adoxa* (Bretby), *Caltha* (Repton Shrubs), *Chrysosplenium oppositifolium* (Repton Shrubs), *Æsculus* (Bretby), *Viola sylvatica* (Bretby Park), *Prunus avium* (Repton Shrubs), *Oxalis* (Repton Shrubs), *Fragaria vesca* (Greysich Hill), *Stellaria holostea* (Greysich Hill), *Veronica chamædrys* (Greysich Hill), *Sisymbrium alliaria* (Bretby), *Fagus* (Bretby), *Anthriscus sylvestris* (Ashby Road), *Ranunculus bulbosus* (Moat Bank), *Primula veris* (Moat Bank), *Prunus spinosa* (Bretby), *Cardamine pratensis* (Bretby), *Quercus* (Bretby Park), *Trifolium purpureum* (Ashby Road), *Potentilla tormentilla* (Bretby Park), *Myosotis arvensis* (Bretby Park), *Paris* (Bretby), *Pyrus malus* (Repton Shrubs), *Geranium robertianum* (Bretby), *Vicia cracca* (Bretby), *Potentilla anserina* (Bretby), *Cardamine amara* (Repton Shrubs), *Bunium flexuosum* (Greysich Hill), *Galium cruciatum* (Greysich Hill), *Fraxinus* (Bretby), *Populus nigra* (Bretby), *Orchis morio* (Bretby), *Arum* (Bretby), *Saxifraga granulata* (Bretby), *Pyrus aucuparia* (Ashby Road), *Lysimachia nemorum* (Repton Shrubs), and *Geum urbanum* (Bretby)]. Ann. Rep. Burton-on-Trent N. H. and Arch. Soc. for 1887-88, pub. 1888, pp. 31-32.

T. GIBBS, junr.

Derbyshire.

Phenological Observations, 1888 [near Burton-on-Trent; dates given for *Galanthus*, *Tussilago*, *Viola odorata*, *Salix caprea*, *Anemone nemorosa*, *Primula veris*, *Æsculus*, *Arum*, *Quercus robur*, *Pyrus aucuparia*, *Bunium*, *Iris pseudacorus*, *Orchis maculata*, *Triticum vulgare*, and *Nuphar lutea* at Bretby, *Corylus*, *Caltha*, *Ulmus montana*, *Scilla nutans*, *Pyrus malus*, and *Rosa canina* at Repton Shrubs, *Ranunculus ficaria* at Greysich Hill, Bretby, *Mercurialis perennis*, and *Primula vulgaris* at Decoy, Bretby, *Cratægus* and *Geranium robertianum* at Ashby Road, *Prunus spinosa* at Sudbury, *Ulmus montana* at Hoofie's Wood, Bretby, *Cardamine pratensis*, *Stellaria holostea*, and *Fagus* at Fauld, *Cratægus* at Bretby Park, and *Sambucus nigra* at Newton Road]. Ann. Rep. Burton-on-Trent N. H. S. for 1889, pp. 14-16.

THOMAS GIBBS.

Derbyshire.

The Influence of Temperature on the Progress of Vegetation in the early Months of the Year [discussed, and tables given to show the average, earliest and latest dates of the flowering near Burton-on-Trent. of *Corylus avellana*, *Galanthus nivalis*, *Tussilago*, *Mercurialis perennis*, *Ranunculus ficaria*, *Salix caprea*, *Anemone nemorosa*, *Caltha*, *Prunus avium*, *P. spinosa*, *Primula officinalis*, *Lychnis diurna*, *Stellaria holostea*, *Scilla nutans*, *Cardamine pratensis*, *Lamium galeobdolon*, *Cratægus*, *Geranium robertianum*, and *Rosa canina*]. Trans. Burton-on-Trent Nat. Hist. and Arch. Soc., vol. i., 1889, pp. 80-85.

F. GILPIN [Secretary].

York N.E. and S.E.

York, The Mount. Natural History Society [at Castle Howard and Kirkham Abbey, May 4th, 1889; *Prunus cerasus*, *Sarothamnus*, *Paris quadrifolia*, *Caltha palustris*, *Scilla nutans*, *Stellaria*, *Orchis maculata*, *O. mascula*; at Fulford, May 24th, *O. morio*, *Habenaria viridis*]. N. H. J., June 15th, 1889, p. 85.

A. B. HALL.

Cumberland, Westmorland, York N.E.

Rarities [on Helvellyn, *Saxifraga hypnoides*, *S. aizoides*, *S. stellaris*, *S. oppositifolia*, *Oxyria digyna* vel *reniformis*, *Sedum rhodiola*, and *Cerastium alpinum*; Great Langdale, *Sedum villosum*; Brothers Water, Derwent Water, *Lobelia dortmanna*; Grasmere, *Sedum reflexum*; Yowlasdale, Thirsk, *Atropa belladonna*]. N. H. J., Sep. 15th, 1889, p. 110.

FREDERICK J. HANBURY.

York Mid W. and N.W., Durham?

Further Notes on Hieracia new to Britain [*H. diaphanoides* Lindeb., Teesdale and Settle; *H. vulgatum* Fr. and var. *rubescens* Backh., Settle]. J. of Bot., March 1889, pp. 73-76.

JAMES HARDY.

Cheviotland.

Report of the Meetings of the Berwickshire Naturalists' Club, for the year 1888 [At Bridge of Aln were noted *Mentha arvensis*, *Juncus glaucus*, *Sparganium ramosum*, *Epilobium hirsutum*, *Salix pentandra*, *S. viminalis*; at Roughley Wood *Mercurialis perennis*, *Ajuga reptans*, *Epipactis latifolia*, *Scilla nutans*, *Primula vulgaris*, *Paris quadrifolia*, *Quercus*, *Fraxinus*, *Corylus*, *Prunus padus*, *Agrostis stolonifera*, *Betula*, *Pyrus aucuparia*, *Crataegus*; at Broompark *Rumex sanguineus*, *Anchusa sempervirens*, *Viola odorata*, *Geranium pratense*, *Doronicum pardalianches*, measurements of *Quercus*, *Fraxinus*, *Fagus*, *Ulmus*, *Acer pseudo-platanus*, *Tilia*, *Pinus sylvestris*, 'Silver Fir,' and *Alnus*, *Rumex hydrolapathum*, *Polygonum amphibium*, *Myriophyllum spicatum*; at Lincombe Dean much *Bunium*; at Heathpool, near Kirknewton, *Nardus stricta*, *Orobus tuberosus*, *Hieracium pilosella*, *Linaria cymbalaria*, *Verbascum thapsus*, *Digitalis purpurea*; at Holy Island, 3rd August, *Cakile rugosa*]. Proc. Berw. Nat. Club, 1888, vol. 12, pp. 167-220.

J. F. HILLS, SEC.

York Mid W., Furness.

York, Bootham. Natural History Society [*Lathraea squamaria*, *Allium vineale*, and *Cochlearia officinalis* at Knaresborough; *Berberis vulgaris* near Hawkshead, Lake District]. N. H. J., June 15th, 1889, p. 86.

HENRY HYDE.

Cheshire.

[Plants observed at an] Excursion to Ashley, for the Bollin Valley [April 21st, 1888; *Petasites officinalis*, *Ranunculus ficaria*, *Nepeta glechoma*, *Mercurialis*, *Primula vulgaris*, *Anemone nemorosa*, *Viola canina*, etc.]. Rep. & Proc. Manch. Sci. Stud. Ass. for 1888 (publ. March 1889), p. 30.

HENRY HYDE.

Cheshire.

[Plants noted at an] Excursion to Delamere [June 2nd, 1888: *Andromeda polifolia*, *Vaccinium myrtillus*, and *Oxycoccus palustris*]. Rep. & Trans. Manch. Sci. Stud. Ass. for 1888 (publ. March 1889), p. 32.

HENRY HYDE.

Cheshire.

[Plants noted on an] Excursion to Chelford, for Capesthorpe [on June 16th, 1888: *Tilia*, *Fagus*, *Acer*, *Castanea*, *Aesculus*, *Ulmus*, *Fraxinus*, *Quercus*, *Crataegus*, *Myosotis palustris*, *Viburnum opulus*, *Hieracium pilosella*, *Valeriana dioica*, and *Lepidium campestre*]. Rep. & Trans. Manch. Sci. Stud. Ass. for 1888 (publ. 1889), p. 33.

HENRY HYDE.

Cheshire.

[Plants noted on an Excursion to] Macclesfield, for Gawsworth [on July 28th, 1888: *Fagus*, *Ranunculus aquatilis*, *Myriophyllum spicatum*, and *Polygonum amphibium*]. Rep. & Trans. Manch. Sci. Stud. Ass. for 1888 (publ. March 1889), p. 38.

H. HYDE.

Derbyshire.

[Plants noted at an Excursion to] Monsal Dale, for Cressbrook Dale [August 11th, 1888: six species of *Geranium*, *Carduus nutans*, *Inula conyza*, *Verbascum thapsus*, *Origanum vulgare*, *Thalictrum flavum*, *Cornus sanguinea*, *Malva*, *Sanguisorba officinalis*, *Poterium sanguisorba*, *Silene inflata*, *Galium cruciatum* and *Centaurea scabiosa*]. Rep. & Trans. Manch. Sci. Stud. Ass. for 1888 (publ. March 1889), p. 39.

HENRY HYDE.

Derbyshire.

[Plants noted at an Excursion to] Hayfield [Sept. 22nd, 1888: *Solidago virgaurea*, *Ulex nanus*, and *Parnassia*]. Rep. & Trans. Manch. Sci. Stud. Ass. for 1888 (publ. March 1889), p. 43.

J. ISMAY.

York S.W.

Some Account of the Parish of Mirfield [the notice given at p. 195 of the Bibliography for 1888 may be supplemented by adding that Ismay's Lesser Hemlock was probably *Cicuta virosa*, Common Nightshade *Solanum dulcamara*, Black Henbane *Hyoscyamus niger*, and Cynocrambe *Cynosurus cristatus*].

J. M. JEFFCOTT.

Isle of Man.

Address of the Retiring President [refers to presence of remains of Pine (*Pinus sylvestris*) and Oak (*Quercus robur*) forests in Manx peat-bogs; gives also Manx names for *Rosa canina*, *Digitalis*, *Papaver*, *Scilla nutans*, *Lythrum salicaria*, and *Spiræa ulmaria*]. Yn Lioar Manninagh, No. 2, April 1889, i. 56-58.

P. M. C. K[ERMODE].

Isle of Man.

Phenological Observations [with Manx dates for *Stellaria media*, *Ranunculus ficaria*, *Potentilla fragariastrum*, *Tussilago*, *Scilla verna*, *Chrysosplenium*, *Viola tricolor*, *Caltha*, *Anemone*, and *Primula vulgaris*]. Vannin Lioar, No. 1, Jan. 1889, i. 19.

P. M. C. K[ERMODE].

Isle of Man.

Phenological Observations [giving Manx dates for *Cardamine pratensis*, *Stellaria holostea*, *Oxalis*, *Hyacinthus*, *Myosotis collina*, *Veronica chamaedrys*, *Erodium cicutarium*, *Prunus cerasus*, *Valerianella olitoria*, *Silene maritima*, *Armeria maritima*, *Ajuga reptans*, *Lychnis diurna*, *Sarothamnus*, *Vaccinium myrtillus*, *Euphrasia officinalis*, *Geranium robertianum*, *Trifolium pratense*, *Sherardia arvensis*, *Myrica gale*, *Ornithopus perpusillus*, *Pedicularis sylvatica*, *Polygala vulgaris*, *Potentilla tormentilla*, *Allium ursinum*, *Sanicula europæa*, *Borago officinalis*, *Crategus*, *Menyanthes*, *Anthriscus*, *Potentilla anserina*, *Spiræa ulmaria*, *Lotus corniculatus*, *Hieracium pilosella*, *Ilex aquifolium*, *Trifolium repens*, *Lychnis vespertina*, *Chrysanthemum leucanthemum*, *C. segetum*, *Lysimachia nemorum*, *Reseda luteola*, *Rubus cæsius*, *Lychnis flos-cuculi*, *Sambucus ebulus*, *Urtica dioica*, *Habenaria chlorantha*, *Rubus idæus*, *Rosa spinosissima*, *Scrophularia nodosa*, *Rosa canina*, *Orchis maculata*, *Anagallis arvensis*, *Comarum palustre*, *Myosotis palustris*, *Digitalis*, *Epilobium montanum*, *Lonicera periclymenum*, *Sedum telephium*, *S. anglicum*, *Convolvulus soldanella*, *Galium verum*, and *Cotyledon umbilicus*]. Yn Lioar Manninagh, No. 2, April 1889, i. 63-66.

P. M. C. K[ERMODE].

Isle of Man.

Phenological Observations [made in the Isle of Man, giving Manx dates for *Hypericum pulchrum*, *Epilobium angustifolium*, *Ononis arvensis*, *Campanula rotundifolia*, *Rubus discolor*, *Galeopsis tetrahit*, *Epilobium parviflorum*, *Erythraea centaurium*, *Hyoscyamus niger*, *Atriplex hastata*, *Convolvulus sepium*, *Hypericum elodes*, *Nymphaea*, *Narthecium ossifragum*, *Calluna vulgaris*, *Erica tetralix*, *E. cinerea*, *Pinguicula lusitanica*, *Solidago virgaurea*, and *Campanula hederacea*]. Yn Lioar Manninagh, No. 3, July 1889, i. 84-86.

P. M. C. KERMODE.

Isle of Man.

Address by the Retiring President . . . Delivered . . . March 11, 1886 [gives titles of books and papers dealing with the Manx Flora]. Back Transactions of the Isle of Man. N. II. S., i. 70-71; published with No. 4 of Yn Lioar Manninagh, Oct. 1889.

P. M. C. K[ERMODE].

Isle of Man.

Phenological Observations [made in the Isle of Man; dates given for *Primula vulgaris*]. Yn Lioar Manninagh, No. 4, Oct. 1889, i. 103.

H. WALLIS KEW.

Linc. N. and S.

Notes made in 1888 upon *Arion ater* and some other Slugs [and their food-plants, noting *Sonchus asper* at Tetney, *Senebiera* at Bourn, *Plantago major* at Quadring, *Juncus*, *Ranunculus flammula*, and *Mentha aquatica* at Grisel-bottom in Burwell Wood]. Nat., April 1889, pp. 103-104.

P. FOX LEE.

York S.W.

[Plants noted by] the Yorkshire Naturalists' Union at Holmfirth [10th June, 1889; *Cardamine amara*, *Salix aurita*, *Carex præcox*, and *C. pilulifera*]. Nat., July 1889, pp. 203-4.

P. FOX LEE.

York Mid W

[Plants noted by] the Yorkshire Naturalists' Union at Harrogate [13th July, 1889; *Corydalis claviculata* and *Rubus sprengelii*, *Iris pseudacorus*, *Carex paludosa*, *C. hirta*, all at Birk Crag; *Habenaria viridis* and *Scirpus setaceus* nearer Harrogate; *Malva moschata*, *Echium vulgare*, *Typha latifolia*, and *Brachypodium sylvaticum* in the Crimple Valley; critical remarks on the reputed discovery of *Myosotis palustris* var. *strigulosa* in Crimple Valley, but eventually the record was attributed to *M. caespitosa*; unsuccessful search made at Plumpton Rocks for *Carex pilulifera* v. *saxumbra*; *C. muricata*, *Lactuca muralis*, *Silaus pratensis*, *Carduus nutans*, *Campanula latifolia*, and *Scabiosa columbaria* also seen, last-named near Grimbold Crag; and at Knaresborough, *Viola hirta*, *Parietaria officinalis*, and *Sagina apetala* noted; several of these are new records for the Nidd drainage-area]. Nat., August 1889, pp. 237-239.

P. FOX LEE.

York S.W.

Twin-flowering of *Chrysanthemum leucanthemum* [in a field near Wharncliffe Wood, described; 'Moonpenny' noted as a fresh vernacular name, according to A. E. Hall, who sent it]. Nat., Aug. 1889, p. 246.

P. FOX LEE.

York S.W.

Cephalozia lammersiana [and *Juncus supinus* and var. *uliginosus*, in profusion at Bretton] near Dewsbury. Nat., Dec. 1889, p. 355.

F. ARNOLD LEES.

All Yorkshire.

[Reviews of his] Flora of West Yorkshire. Science Gossip, June 1888, p. 126; Scott. Nat., April 1888, p. 277; and (by J. E. Bagnall), Midl. Nat., May 1888, pp. 127-130.

F. A. L[EES].

York S.W.

[Review of] the Flora of North-East Ireland [with note of Bog-Bell as a name for *Andromeda* at Thorne]. Nat., Jan. 1889, p. 23.

[B. B.] LETALL.

York N.E.

York, Bootham. Natural History Club [*Chenopodium rubrum* noted on the premises]. N. H. J., Oct. 15th, 1889, p. 128.

R. T. MANSON.

Durham, York N.W. & N.E.

Zig-zag Ramblings by a Naturalist [round Darlington; notes anent 'Our River' (Skerne) and *Alisma plantago*, *Plantago major*, *Pl. lanceolata*, *Mentha aquatica*, *Veronica beccabunga*, *V. chamaedrys*, *Hippuris vulgaris*, all by the Skerne; *Petasites vulgaris*, *Tussilago*, *Bellis*, *Galium aparine*, and *G. cruciatum*, at Low Coniscliffe; *Linum catharticum* near Barton and at Pierce-bridge, *Arctium lappa* at Merrybent, *Potentilla anserina*, *Bunium flexuosum*, *Myrrhis odorata*, *Myosotis palustris*, *Lychnis flos-cuculi*, *Iris pseudacorus*, *Geum rivale*, *Rubus suberectus* (this also in Yorkshire at Dinsdale Dam), *Digitalis*, *Linaria cymbalaria*, *Pedicularis palustris*, *Triglochin palustre*, *Reseda luteola*, and *Pinguicula vulgaris* at Hell Kettles (36-53), *Achillea millefolium*, *Prunella vulgaris*, *Scrophularia nodosa*, *Tilia europea*, *Alisma plantago*, *Lemna minor*, *Callitriche verna*, *Potentilla reptans*, *Salix alba*, *Taxus baccata*, *Fraxinus excelsior*, *Acer pseudo-platanus*, *Fagus sylvatica*, *Sedum acre*, *Carpinus betulus*, *Quercus*, *Ulmus campestris*, *U. montana*, *Pyrus aucuparia*, *Betula alba*, *Alnus glutinosa*, and *Corylus avellana* in 'Our

Naturalist,

Park' (pp. 61-83), *Centaurea nigra*, *C. scabiosa*, *Senecio jacobæa*, *S. aquaticus*, *S. vulgaris*, *Euphrasia officinalis*, *Bartsia odontites*, *Scabiosa succisa*, *Erythraea centaurium*, *Ballota nigra*, *Marrubium vulgare*, *Hypericum quadrangulare*, *H. perforatum*, *Asperula odorata*, *Rumex crispus*, *Pulicaria dysenterica*, *Parnassia*, *Menyanthes*, *Eupatorium cannabinum*, and *Valeriana officinalis* at Redcar Field (pp. 85-93), *Chrysanthemum segetum*, *Polygonum aviculare*, *P. persicaria*, and *Stachys sylvatica* near Fighting Cocks (pp. 95-100); *Myosotis palustris*, *Mentha rotundifolia*, *Polygonum amphibium*, *Ranunculus lingua*, *Geranium dissectum*, *G. pratense*, and *Sparganium ramosum* in the Cocker Beck (pp. 101-104); at pp. 115-132 is given a list of 426 plants arranged alphabetically by their English names, and giving stations, and followed by a list of 49 grasses from the pen of J. P. Soutter, who gives stations throughout South Durham]. Small 8vo, pp. 159. Darlington: Printed at the 'Times' Office, 1884.

EDWARD S. MARSHALL.

Westmorland, York N.E., Derbyshire.

Notes on Epilobia [*Epilobium montanum* × *parviflorum* = *E. limosum* Schur., Dufton, Westmorland, Prof. Oliver; *E. parviflorum* × *roseum* = *E. persicinum* Reichb., wet ditch, Middleton, Pickering (Reeves), and Derbyshire (hb. Hooker, at Kew, t. Haussknecht)]. *J. of Bot.*, May 1889, p. 147.

J. A. MARTINDALE.

Westmorland.

Early Westmorland Plant Records. Part I. Pre-Linnæan Period, 1597-1744 [giving first a bibliography and then a list of the plants with their stations, in the modern systematic order, this first instalment giving 110 species, from *Thalictrum* to *Hieracium*]. *Westm. Note Book & Nat. Hist. Record*, Vol. i., Parts 3 and 4, Sept. and Dec. 1888, pp. 67-86.

J. A. MARTINDALE.

Cumberland, Westmorland, Furness.

Early Westmorland Plant Records [continued from p. 86, and carrying the list from No. 111, *Hieracium* . . . ? to 172, *Cephalanthera ensifolia*]. *Westm. Note Book & Nat. Hist. Record*, vol. i. part 5, March 1889, pp. 111-119.

[J. A.] MARTINDALE.

Westmorland.

[Plants observed at a] Field Meeting of the Kendal Natural History Society [at Lyth Fell, 1st Aug. 1889; of 161 seen the following are named as the more interesting:—*Arenaria verna*, *Hypericum montanum*, *Hippocrepis comosa*, *Inula helenium*, *I. conyza*, *Epipactis latifolia*, and *Melica nutans*]. *Westm. Note Book and N. H. Record*, Part 8, Dec. 1889, p. 175.

J. A. MARTINDALE [not signed].

Westmorland and Furness.

Early Westmorland Plant Records [for *Epipactis atrorubens* Schultz, *Orchis pyramidalis* L., *Ophrys muscifera* Huds., *Habenaria conopsea* Berth., *Narcissus pseudo-narcissus* L., *Convallaria majalis* L., *Allium scorodoprasum* L., *A. vineale* L., *A. oleraceum* L., and var. b. *complanatum* Bor., *A. schænoprasum* L., *A. ursinum* L., *Gagea fascicularis* Salisb., *Narthecium ossifragum* Huds., *Juncus filiformis* L., *Alisma ranunculoides* L., *Triglochin palustre* L., *Scirpus setaceus* L., *S. caricis* Retz., *Eriophorum vaginatum* L., *Agrostis vulgaris* With. b. *pumila* (L.), *Sesleria cærulea* Scop., *Melica nutans* L., *Festuca ovina* L., and *Stipa pennata* L., all treated of in detail, and the last-named discussed to the extent of 3½ pages]. *Westm. Note Book and Nat. Hist. Rec.*, Sep. 1889, pp. 153-160. [*Cephalaria alpina* and *Saxifraga umbrosa* treated of; followed by an account of a note book of Thos. Lawson's, including notes of *Helianthemum chamæcystus*, *Geranium sanguineum*, *Senecio palustris*, *Atropa belladonna*, *Veronica scutellata*, *Narthecium ossifragum*, *Sibthorpia europæa*, *Parnassia*, *Empetrum nigrum*, *Orobanche major*, *Lemna trisulca*, *Glaucium flavum*, *Barbarea vulgaris*, *Sisymbrium officinale*, *Lepidium campestre*, *Crambe maritima*, *Silene cucubalus*, *Arenaria peploides*, *Sagina procumbens*, *Malva moschata*, *Geranium robertianum*, *Anthyllis vulneraria*, *Lathyrus macrorrhizus*, *Lythrum salicaria*, *Hydrocotyle vulgaris*, *Crithmum maritimum*, *Hedera helix*, *Galium saxatile*, *Pulicaria dysenterica*, *Statice limonium*, *Armeria maritima*, *Glaux maritima*,

Menyanthes, *Scutellaria minor*, *Stachys ambigua*, *Atriplex babingtonii*, *Salicornia herbacea*, *Polygonum convolvulus*, *Rumex hydrolapathum*, *Parietaria officinalis*, *Tamus communis*, *Polygonatum multiflorum*, *Luzula pilosa*, and *Carex pulicaris*, all of which have old records given]. Westm. Note Book and Nat. Hist. Record, Part 8, Dec. 1889, pp. 179-186.

JAMES EARDLEY MASON.

Linc. N.

[Plants noted for Well near Alford, in a paper on] additions to the List of Some Hemiptera-Heteroptera of Lincolnshire [*Pinus sylvestris*, *Ononis arvensis*, *Lychnis diurna*, *Stachys sylvatica*, and *Epilobium hirsutum*]. Nat., April 1889, p. 128.

E. C. MORLAND.

York N.E.

York, Bootham. Natural History Club [Marsh Marigolds (*Caltha palustris*) out on Tilmire, Oct. 23rd]. N. H. J., Dec. 15th, 1889, p. 168.

S. L. MOSLEY.

York Mid W.

From Oxlip to Primrose [flowers of each from Malham grown in a Huddersfield garden, approximated year by year; J. G. Baker adds in note that the Yorkshire 'Oxlip' is a hybrid between *Primula vulgaris* and *P. veris*]. Nat., June 1889, p. 182.

S. L. MOSLEY.

York S.W.

Observations at Anston Stones, May 1889 [on *Ranunculus auricomus*, *R. ficaria*, *Viola odorata*, *V. canina*, *Saxifraga granulata*, *S. tridactylites*, *Myosotis sylvatica*, *Plantago media*, *Primula veris*, *Paris*, *Melica nutans*, *Arum*, *Allium ursinum*, *Myrrhis odorata*, and *Spiraea ulmaria*]. Nat., Aug. 1889, p. 226.

H. MURRAY.

Lanc. W.

[*Impatiens noli-me-tangere* near Carnforth, a food-plant during 1888 for] *Penthina postrema*. Ent., Jan. 1889, p. 16.

W. NELSON [not signed].

York Mid W.

[White variety of *Fragaria vesca*, collected at Spofforth by W. Nelson, exhibited to] Leeds Naturalists' Club and Scientific Association [22nd July, 1889]. Research, Sep. 1889, p. 71.

GEORGE NICHOLSON.

Lanc. W., 'York,' Derby.

Extracts from Report of the Botanical Exchange Club for 1887 [*Viola curtisii* Forst., vars., Blackpool, Lanc. W.; *Rubus nemoralis* Muell., Quaker's Wood near York; *R. chlorothyrsus* Focke, Shirley, Derbyshire; *R. gratus* Focke, *R. carpinifolius* W. & N., and *R. fissus* Lindl., all same place; hybrid of *R. cæsius* L. and *R. idæus*, between Ashbourne and Matlock]. J. of Bot., Feb. 1889, pp. 52-59.

J. E. NOWERS [Sec.].

Derbyshire.

Comparative Calendar of Nature [for 1877, 1878, and 1879, about Burton-on-Trent; dates given for *Ribes rubrum*, *R. grossularia*, *Tilia europæa*, *Cratægus*, *Bellis*, *Corylus*, *Viola odorata*, *Primula vulgaris*, *Lychnis*, *Quercus robur*, *Anemone*, *Myosotis sylvatica*, *Scilla*, *Stellaria holostea*, *Taraxcum*, and *Rosa canina*]. 4th Ann. Rep. Burton-on-Trent Nat. Hist. and Arch. Soc., 1880, pp. 71-72.

J. E. NOWERS.

Derbyshire.

Calendar of Nature, 1886 [for Burton-on-Trent; dates given for *Potentilla fragariastrum* (Bretby), *Ranunculus ficaria* (Bretby), and *Colchicum autumnale* (Ingleby)]. 11th Ann. Rep. Burton-on-Trent N. H. and Arch. Soc. for 1886, pub. 1887, pp. 22-26.

J. E. NOWERS.

Derbyshire.

Calendar of Nature, 1887 [for Burton-on-Trent: dates given for *Galanthus* (Bretby), *Tussilago*, *Ulmus* (Drakelow), *Helleborus viridis* (Drakelow), *Lamium purpureum* (Drakelow), *Nepeta glechoma* (Drakelow), *Lychnis diurna*, and *Petasites vulgaris* (Derby Road)]. Ann. Rep. Burton-on-Trent N. H. and Arch. Soc. for 1887-88, pub. 1888, pp. 31-32.

- J. E. NOWERS.** **Derbyshire.**
Phenological Observations, 1888 [near Burton-on-Trent; giving dates for *Tussilago* at Winshill, *Anemone nemorosa*, *Stellaria holostea* and *Fagus sylvatica* at Fauld, *Ulmus montana* and *Æsculus hippocastanum* at Drakelow, *Arum maculatum* in Dovedale, *Quercus robur* at Norbury, *Sambucus nigra* at Waterloo Clump, *Orchis maculata* at Knightley Park, and *Nuphar lutea* at Walton]. Ann. Rep. Burton-on-Trent N. H. S. for 1889, pp. 14-16.
- W. H. PAINTER.** **Derbyshire.**
A Contribution to the Flora of Derbyshire. Being an account of the Flowering Plants, Ferns, and Characeæ found in the County [with preliminary statistical, geological, physiographical, and bibliographical notes; the whole flora, including ferns and characeæ, includes 889 species, for each of which its nativity, type, range and localities are stated]. 8vo, cloth, pp. 156, and map. London: Bell & Son, price 7s. 6d.
- W. H. PAINTER.** **Derbyshire.**
Notes upon the Botany of Derbyshire [giving the range of the three zones included, the southward termination on Axe Edge and Kinder Scout of *Rubus chamaemorus* and *Arbutus uva-ursi*; the percentage of the types included in the Derbyshire Flora; the lithology of the county; the absence of *Geranium sylvaticum*; enumeration of the *Hieracia* and *Rosæ* which occur; and a sketch of the geological structure and river-systems of the county]. Nat., June 1889, pp. 177-179.
- W. H. PAINTER.** **Derbyshire.**
Additional Notes on the Flora of Derbyshire [on species of *Ranunculus*, *Fumaria*, *Erysimum*, *Lepidium*, *Reseda*, *Stellaria*, *Montia*, *Lotus*, *Lathyrus*, *Rubus*, *Potentilla*, *Rosa*, *Pyrus*, *Drosera*, *Peplis*, *Galium*, *Solidago*, *Hieracium*, *Leontodon*, *Wahlenbergia*, *Pyrola*, *Hypopithys*, *Menyanthes*, *Orobanche*, *Spiranthes*, *Habenaria*, *Juncus*, *Sparganium*, *Acorus*, and *Potamogeton*, including 9 new county records]. J. of Bot., June 1889, pp. 178-179.
- W. HUNT PAINTER.** **Derbyshire.**
Corrections [as to Derbyshire plants; *Rubus fissus* Lindl., *R. suberectus* Anders., and *Hypericum linariifolium*]. J. of Bot., Aug. 1889, p. 252.
- E. T. PIM and E. H. THOMPSON, Assistant Secretaries.** **York Mid W. York, Bootham.** **Natural History, &c., Society** [*Neottia nidus-avis*, found June 1st, 1889, near Thorp Arch, by F. E. Marriage]. N. H. J., Sept. 15th, 1889, p. 105.
- WILLIAM HENRY PURCHAS and AUGUSTIN SEY.** **Yorkshire.**
A Flora of Herefordshire [contains a woodcut representing the labels of '*Epipactis ovalis*' from Herefordshire, Yorkshire, and N. Wales]. Hereford: Jakeman & Carver, 8vo, pp. xi. + xxxvii. + 545 [1889]. Reviewed by E. S. Marshall, J. of Bot., July 1889, pp. 217-220. [Not seen].
- L. RICHARDSON.** **Cumberland, York N.E., Mid W., & S.W., Lanc. S.**
The Floral Calendar [for 1889; giving Dates and Averages for Flowering of 31 species at Silloth, Wigton, Thirsk, Harrogate, York, Settle, Rawdon, Ackworth, Manchester, Penketh]. N. H. J., Oct. 15th, 1889, pp. 134-136.
- J. T. RICHES.** **Yorkshire, Durham.**
Notes on Economic Botany [*Sinapis nigra* L. largely cultivated 'about Yorkshire and Durham']. Sci. Goss., Dec. 1889, p. 273.
- J. F. ROBINSON.** **Cheshire.**
On the Botany of the Cheshire Meres [a brief note, mentioning *Paris*, *Rubus hystrix*, *Allium ursinum*, *Rosa arvensis*, *Prunus cerasus*, *Listera ovata*, *Orchis morio*, *Campanula latifolia*, *Valeriana dioica*, *Primula veris*, *Lysimachia nummularia*, *L. vulgaris*, *Calamagrostis stricta*, *Utricularia minor*, all the *Droseræ*, *Potamogeton heterophyllus*, *P. lucens*, *Pinguicula*

vulgaris, *Scutellaria minor*, *Radiola millegrana*, *Centunculus minimus*, *Pedicularis sylvatica*, *Veronica scutellata*, *Myrica gale*, and their habitats, as characteristic forms met with]. Proc. Bot. Soc. Edinb., vol. 14, part 3 (1883), pp. cvi.-cvii.

JOHN E. ROBSON.

Durham.

[Decrease of *Malva sylvestris* near Hartlepool, from being hunted down by herbalists, who call it 'marsh mallow,' referred to in a] Note on *Eubolia cervinata*. Young Nat., Jan. 1889, p. 15.

LISTER ROTHERAY.

York Mid W.

Arenaria gothica Fries, a Plant New to West Yorkshire [found at Ribbleshead, June 1889; identified by A. Bennett]. Nat., Oct. 1889, p. 314.

LISTER ROTHERAY.

York Mid W.

The Discovery of *Arenaria gothica* in West Yorkshire [a detailed narrative of the discovery at Ribbleshead in June 1889, and of the subsequent identification]. Nat., Nov. 1889, pp. 335-336.

A. S. ROWNTREE [Sec.].

York Mid W.

York, Bootham [at Knaresborough, May 9th, 1889; *Galeobdolon luteum*, *Myrrhis odorata*, *Lathræa squamaria* and *Myosotis sylvatica*; at Thorp Arch, June 1st, *Monotropa hypopitys* and *Actæa*]. N. H. J., June 15th, 1889, p. 88.

WM. RUSHFORTH.

York S.W.

Polypogon monspeliensis near Horbury, South-West Yorkshire [with editorial note by C. P. Hobkirk on its occurrence also near Huddersfield, and its geographical range]. Nat., Sept. 1889, p. 277.

JOHN SADLER.

Furness.

On a Peculiarly Branching Silver Fir [*Picea pectinata*], grown at Conishead Priory, Cumberland [(error for Furness), giving dimensions, and a plate]. Proc. Bot. Soc. Edinb., Vol. 14, part 3 (1883), p. cxvi. and plate 13.

W. A. SHUFFREY.

York Mid W.

Senecio saracenicus in Littondale, Mid-West Yorkshire [in three stations]. Nat., Sept. 1889, p. 277.

F. SISSONS.

Notts.

Sissons's "Beauties of Sherwood Forest": a Guide to the "Dukeries" and Worksop [with notices of Trees, especially of the famous Oaks (*Quercus robur*), with woodcuts of one or two of them] . . . Worksop: . . . 1888 [146 pp., small 8vo, paper covers, one shilling].

F. SISSONS.

Notts, Derbyshire.

Cresswell Crags [with notices of Trees and various plants by their English names: *Corylus*, *Acer*, *Fraxinus*, *Quercus*, *Alnus*, *Hedera*, *Helianthemum*, *Inula conyza*, *Parietaria*, *Lactuca muralis*, *Chlora perfoliata*, *Nepeta glechoma* and *Epilobium hirsutum*]. Sissons's 'Beauties of Sherwood Forest: a Guide to the 'Dukeries' and Worksop, 2nd ed., 1888, p. 108.

M. B. SLATER.

York N.E.

[Plants observed by] The Yorkshire Naturalists' Union at Robin Hood's Bay [21st June, 1889; *Lotus corniculatus*, *Anthyllis vulneraria*, *Trifolium perenne*, *T. repens*, *Crepis virens*, and *Chrysanthemum leucanthemum* on the railway banks of the Scarborough and Whitby line; 156 plants noted, of which the following are additional to the two previously published lists:—*Corydalis claviculata*, *Cochlearia officinalis*, *Lychnis flos-cuculi*, *Malva moschata*, *Asperula odorata*, *Drosera rotundifolia*, *D. longifolia*, *Solidago virgaurea*, *Antennaria dioica*, *Erythraea centaurium*, *Gentiana campestris*, *Habenaria bifolia*, *Epipactis palustris*, *Luzula sylvatica*, *Scirpus pauciflorus*, *Eriophorum vaginatum*, *Carex remota*, *C. glauca*, *Bromus mollis*, *Melica uniflora*, *Anthoxanthum odoratum*, and *Alopecurus geniculatus* all about Fylinghall and Howdale Beck; and *Cornus suecica* from Cross Cliff also shown]. Nat., Aug. 1889, pp. 230-231.

- J. C. SMITH. Westmorland.
New Records [of Plants] for Basins 4 and 5 [of Westmorland [are *Carex limosa* and *Sparganium minimum* on Woodside Moor, and *Colcichum autumnale* near Tirrill]. Westm. Note Book and Nat. Hist. Record, Part 8, Dec. 1889, p. 186.
- H. T. SOPPITT. York S.E.
[Plants observed by] The Yorkshire Naturalists' Union at Kirkham Abbey and Acklam Brow [4th Sep., 1889; *Actea*, *Nasturtium amphibium*, *Geranium pyrenaicum*, *Myriophyllum verticillatum*, *Hottonia*, *Utricularia vulgaris*, *Linaria minor*, *Lysimachia vulgaris*, *Verbascum thapsus*, *Rumex hydrolapathum*, *Parnassia*, *Poa compressa*, and *Carex muricata* mentioned as the best of the 180 flowering plants observed]. Nat., Nov. 1889, p. 342.
- J. P. SOUTTER. Durham.
The Ragweed (*Senecio jacobaea*). [a general article, incidentally noting 'haygreen' or 'ayegreen' as a Durham name]. Young Nat., Oct. 1889, p. 209.
- HERBERT STONE.
Birmingham Natural History and Microscopical Society [*Stratiotes aloides* exhibited from Aspley, near Warrington; *Galeopsis versicolor*, *Drosera rotundifolia*, *Vaccinium oxycoccos* also mentioned, possibly from same place]. Midl. Nat., Aug. 1889, p. 195.
- WALTER W. STRICKLAND. Linc. N.
Notes on Fungi: with List of species collected chiefly in East Yorkshire [with notes of their occurrence on *Conium maculatum* at Appleby, Lincs.]. Nat., July 1889, p. 195.
- G. SWAINSON. Isle of Man.
Results of Dredging Excursion to Dalby, Aug., 1888 [with records of *Glaucium luteum*, *Samolus valerandi*, *Artemisia maritima*, *Crithmum maritimum*, *Sagina maritima*, *Sedum telephium*, *Hypericum androsaemum*, *Plantago maritima*, and *P. coronopus*]. Vannin Lioar, No. 1, Jan. 1889, i. 15.
- GEO. SWAINSON. Isle of Man.
Sponge Hunting on the Manx Coast. Peel and Port St. Mary [*Lepigonum rupestre*, *Crambe maritima*, *Crithmum maritimum*, also noted]. Wesl. Nat., Oct. 1889, p. 194.
- M. TAIT. All Yorkshire.
General Aspect of Vegetation, &c. [of Yorkshire, treated of by soils, with numerous references to plants in exemplification, by their English names]. Yorkshire: its Scenes, Lore, and Legends . . . Leeds: E. J. Arnold . . . 1888, pp. 63-65; other references also at pp. 4, 5, 6, 26, 38, 62 (Cowthorpe Oak).
- T. TALBOT. Isle of Man, Cumberland, Furness.
***Brassica monensis* [as a Manx plant; its stations and its history treated of in detail; first found by Ray; Cumberland and Furness records of 1688 (Thos. Lawson)].** Back Trans. I. of M. N. H. S., i. 13-15; pub. with Vannin Lioar, No. 1, Jan. 1889.
- F. S. TELLET. Isle of Man.
***Abies pectinata* (Silver Fir) [giving measurements of one blown down at Ballaglass, Maughold, Dec. 11th-12th, 1883].** Trans. I. of Man N. H. S., vol. i. 1879-84 (publ. 1888), p. 139.
- R. F. and F. P. THOMPSON. York Mid W.
The Mild Season. . . . Settle [three *Geraniums*, *Sonchus asper*, and *Myosotis arvensis* in flower Dec. 8th, 1888]. N. H. J., Feb. 15th, 1889, p. 16.
- R. F. and F. P. THOMPSON. York Mid W.
Curious Form of *Corylus Avellana* [found near Settle, described]. J. of Bot., June 1889, p. 183.

CHAS. F. THORNEWILL.

Derbyshire.

Calendar of Nature for 1882 [near Burton-on-Trent; giving dates for *Aconitum*, *Galanthus*, *Salix capræa*, *Ribes grossularia*, *Æsculus*, *Quercus*, and *Galeobdolon*]. 7th Ann. Rep. Burton-on-Trent N. H. and Arch. Soc., for the year ending 31st March, 1883, p. 15.

C. F. THORNEWILL.

Derbyshire.

Calendar of Nature, 1883 [near Burton-on-Trent; dates given for *Aconitum*, *Galanthus*, *Salix capræa*, *Mercurialis perennis*, *Buxus* (Repton), *Prunus spinosa*, *Primula veris*, *Æsculus*, *Cratægus* (Walton), and *Digitalis* (Whatstandwell)]. 8th Ann. Rep. Burton-on-Trent N. H. and Arch. Soc., year ending 31st Dec., 1883, pub. 1884, pp. 20-21.

C. F. T[HORNEWILL].

Derbyshire.

Calendar of Nature, 1884 [near Burton-on-Trent; dates given for *Aconitum*, *Alnus*, *Salix capræa*, *Primula vulgaris*, *Adoxa* (Brizlincote), *Æsculus*, *Caltha*, *Asperula* (Repton Shrubs), and *Galeobdolon* (do.)]. 9th Ann. Rep. Burton-on-Trent N. H. and Arch. Soc. for 1884 (pub. 1885), pp. 23-25.

C. F. T[HORNEWILL].

Derbyshire.

Calendar of Nature, 1885 [near Burton-on-Trent; dates given for *Daphne mezereon* and *Primula veris*]. 10th Ann. Rep. Burton-on-Trent N. H. and Arch. Soc. for 1885, pub. 1886, pp. 21-24.

C. F. THORNEWILL.

Derbyshire.

Calendar of Nature, 1886 [for Burton-on-Trent; dates given for *Daphne mezereon* (Stapenhill), *Ranunculus ficaria*, *Corylus*, *Salix capræa*, *Primula vulgaris*, *Æsculus*, *Taraxacum*, *Caltha*, *Oxalis acetosella*, *Primula veris*, and *Prunus spinosa*]. 11th Ann. Rep. Burton-on-Trent N. H. and Arch. Soc. for 1886, pub. 1887, pp. 22-26.

C. F. THORNEWILL.

Derbyshire.

Calendar of Nature, 1887 [near Burton-on-Trent; dates given for *Eranthis hyemalis*, *Salix capræa*, *Viola odorata*, *Ribes nigrum*, *Cratægus*, *Æsculus*, *Ilex*, and *Pyrus malus*]. Ann. Rep. Burton-on-Trent N. H. and Arch. Soc. for 1887-88, pub. 1888, pp. 29-30.

C. F. THORNEWILL.

Derbyshire.

Phenological Observations, 1888 [near Burton-on-Trent; dates given for *Galanthus* at Burton, *Viola odorata* (do.), *Salix capræa* (old churchyard), *Æschulus* at Manor Croft and Burton, *Pyrus aucuparia* at Burton, *Bunium* (do.), *Sambucus nigra* (do.), *Iris pseudacorus* at Burton]. Ann. Rep. Burton-on-Trent N. H. S. for 1889, pp. 14-15.

E. G. TOOKER.

Isle of Man.

Report of the Botanical Section of the Isle of Man N. H. Society for 1888; notes on *Brassica sinapistrum*, *Thymus serpyllum*, *Armeria vulgaris*, *Scilla verna*, *Glaucium luteum*, *Hyoscyamus niger*, *Crithmum maritimum*, and a sport of *Primula vulgaris*, in the Island]. Yn Lioar Manninagh, No. 2, April 1889, i. 59-61.

A. J. WALKER.

Durham, York N.W. and N.E.

Teesdale Rarities [found by writer and Mr. Weldon, Aug. 1889: *Helianthemum marifolium*, *Viola amœna*, *Dryas*, *Potentilla fruticosa*, *Saxifraga stellaris*, *S. aizoides*, *S. hirculus*, *Sedum villosum*, *Epilobium alsinifolium*, *Drosera intermedia*, *Galium boreale*, *Hieracium anglicum*, *H. iricum*, *H. murorum*, *Primula farinosa*, *Rumex aquaticus*, and *Tofieldia palustris*; also at Scarborough *Hippophaë rhamnoides*, and at Strensall *Andromeda polifolia*, *Rumex maritimus*, and *Carex æderi*]. Nat. Hist. Journ., Nov. 15th, 1889, p. 155.

A. J. WALKER and Mr. WELDON.

York N.E.

Plants from Foss Islands [named by J. G. Baker; *Arabis arenosa*, *Saponaria vaccaria*, *Malva nicæensis*, *M. parviflora*, *Medicago falcata*, *Centaurea melitensis*, *Picris echioides* var., *Amsinckia scorpioides*, *Salsola kali*, *Rumex dentatus*, *Asphodelus fistulosus*, *Panicum crus-galli*, *Bromus arvensis*, *B. mollis* var., *Lolium perenne* v. *italicum*, and *Glyceria distans*, casuals owing to waste from wheat-mills dumped into these marshes]. Nat. Hist. Journ., Nov. 15th, 1889, p. 155.

J. G. WELLS.

Derbyshire.

Calendar of Nature, 1885 [near Burton-on-Trent; dates given for *Tussilago* (Derby Road) and *Ranunculus ficaria* (do.)]. 10th Ann. Rep. Burton-on-Trent N. H. and Arch. Soc. for 1885, pub. 1886, pp. 21-24.

J. G. W[ELLS].

Derbyshire.

The Weather of 1886 [giving dates for 1883 to 1886 inclusive for *Tussilago*, *Ranunculus ficaria*, *Cratægus*, *Viola odorata*, *Primula vulgaris*, and *Mercurialis perennis*, near Burton-on-Trent]. 11th Ann. Rep. Burton-on-Trent N. H. and Arch. Soc. for 1886, pub. 1887, p. 19.

J. G. WELLS.

Derbyshire.

Calendar of Nature, 1886 [for Burton-on-Trent; dates given for *Ranunculus ficaria* (Derby Road), *Ribes rubrum* (do.), *R. nigrum* (do.), *R. grossularia* (do.), *Helleborus viridis* (Drakelow Park), *Ribes grossularia* (do.), *Primula vulgaris* (do.), *Viola canina* (do.), *Ulmus montana* (do.), *Rosa canina* (Drakelow), *Ribes rubrum* (Derby Road), *R. nigrum* (do.), and *Spiræa ulmaria* (Drakelow)]. 11th Ann. Rep. Burton-on-Trent N. H. S. for 1886, pub. 1887, pp. 22-26.

JAMES G. WELLS [Hon. Sec.]

Derbyshire.

Report of the Botanical and Microscopical Section [of the Burton-on-Trent Nat. Hist. Soc.], 1887-8 [*Myrrhis*, *Prunus padus* and *Arenaria verna* noted at Cromford, *Epipactis latifolia*, *Ranunculus circinatus*, and *Bidens cernua* at Bretby, *Senecio sylvaticus* at Repton Rocks, *Daphne laureola*, *Trollius*, *Epipactis purpurata*, *Lactuca muralis*, *Dipsacus pilosus*, *Genista tinctoria*, and *Linaria minor* at Cromford, *Allium vineale*, *Hesperis matronalis*, and *Melica uniflora* at Dovedale]. Ann. Rep. Burton-on-Trent N. H. and Arch. Soc., 1887-1888, pub. 1888, pp. 17-18.

J. G. WELLS.

Derbyshire.

Calendar of Nature, 1887 [for Burton-on-Trent; dates given for *Ranunculus ficaria* (Derby Road), and *Cratægus* (Stapenhill)]. Ann. Rep. Burton-on-Trent N. H. & Arch. Soc., for 1887-88, publ. 1888, pp. 31-32.

JAMES G. WELLS.

Derbyshire.

Report of the Botanical and Microscopical Section, 1888-9 [of the Burton-on-Trent N. H. S.; notes on *Gagea lutea* at Brassington Rocks, *Myosotis collina* at Anchor Church, *Potentilla comarum* near Denstone, *Deschampsia flexuosa* at Oakamoor, and *Avena strigosa* at Shobnall]. Ann. Rep. Burton-on-Trent N. H. S. for 1889, pp. 12-13.

J. G. WELLS.

Derbyshire.

Phenological Observations, 1888 [about Burton-on-Trent; giving dates for *Corylus avellana* at Egginton, *Caltha palustris* and *Rosa canina* on Derby Road, *Prunus spinosa* at Sudbury, *Ulmus montana* and *Æsculus hippocastanum* at Stapenhill, *Arum maculatum* in Dovedale, *Quercus robur* at Norbury, *Pyrus malus*, *Cratægus oxyacantha* at Shobnall Road, *Pyrus aucuparia* at Ashby Road, *Bunium flexuosum* at Bretby, *Sambucus nigra* at Newton Road, and *Orchis maculata* at Knightley Park]. Ann. Rep. Burton-on-Trent N. H. S. for 1889, pp. 14-16.

J. A. WHELDON.

York N.E. and Mid W.

Strensall Common [much changed within the past two years; disappearance — actual and impending — of *Andromeda polifolia*, *Drosera intermedia*, *Hypericum elodes*, *Mentha pulegium*, *Radiola millegiana*, and vitality of *Gentiana pneumonanthe* noted; Askham Bog also threatened with partial destruction, but not as far as the haunts of *Carex paradoxa* and *Myrica*]. *Sci. Goss.*, Jan. 1889, p. 23.

J. A. WHELDON.

York N.W. or Durham.

The Yorkshire Naturalists' Union in Upper Teesdale [in Aug. 1889; *Hieracium angustum* Lind., *H. auratum* Fries, *H. rigidum* Backh., *H. vulgatum* Fr., *H. commutatum* Backh., *H. anglicum* Fr., *H. iricum* Fr., *H. gothicum* Fr., and *H. murorum* L., collected, and determined by F. J. Hanbury]. *Nat.*, Sept. 1889, p. 284.

JOSEPH WHITTAKER.

Derbyshire.

Note on the Sudden Appearance of *Epilobium angustifolium* L., on Burnt Clay, forming the lower part of an embankment of the Great Northern Railway, in the parish of Breadsall, Derbyshire. *Proc. Bot. Soc. Edinb.*, vol. 14, part 3 (1883), p. cvii.

WILLIAM WHITWELL.

York Mid W.

***Arenaria gothica* Fries in Britain** [at Ribbleshead, discovered by Lister Rotheray, June 12th, 1889]. *J. of Bot.*, p. 314.

WILLIAM WHITWELL.

York Mid W., Westmorland.

***Arenaria gothica* Fries, in Britain** [a full account of its discovery and occurrence at Ribbleshead, where it grows with *A. serphyllifolia*, *Sagina nodosa*, small *Capsella*, etc.; followed by discussion on its specific value, synonymy, etc., and its suspected presence near Grasmere Lake]. *J. of Bot.*, Dec. 1889, pp. 354-359.

E. M. WOOD.

Cheshire.

[Plants noted at a] **Field Meeting at Burton and Willaston, June 18th, 1887** [*Silene inflata*, *Genista tinctoria*, *Menyanthes*, *Comarum*, and *Sedum anglicum*]. *Liverp. Sci. Stud. Ass.*, Ann. Rep. for 1887-88, p. 12.

E. M. WOOD.

Lanc. S., Cheshire.

Some British Orchids [a general paper, to which is appended a bare list of 17 species found in the Liverpool district]. *Liverpool Sci. Stud. Ass.*, Ann. Rep. for 1887-88, p. 29.

EMILY M. WOOD.

York Mid W.

Liverpool Field Naturalists at Ingleton [on June 5, 1889; mention made of about 32 flowering plants found]. *Research*, July 1889, pp. 19-20.

TREVOR BASIL WOODD.

York Mid W.

[List of 214] **Plants of Langstrothdale, Mid-West Yorkshire** [with stations for some, and extensions of altitudinal range]. *Nat.*, Sept. 1889, pp. 271-277.

T. W. WOODHEAD.

York N.W.

[Plants noted by] **The Yorkshire Naturalists' Union in Upper Teesdale** [in Aug. 1889; *Melampyrum sylvaticum*, *Paris*, *Geranium sylvaticum*, *Potentilla fruticosa*, *Pyrus aria*, *Galium boreale*, *G. sylvestre*, *Solidago virgaurea* v. *cambrica*, *Graphalium supinum*, *Carduus heterophyllus*, *Serratula tinctoria* var. *monticola*, *Primula farinosa*, *Polygonum viviparum*, *Hieracium iricum*, *H. pallidum*, *H. tridentatum*, *Viola lutea* v. *amena*, *Saxifraga aizoides*, *S. stellaris*, *S. hypnoides*, *Sedum villosum*, *Listera cordata*, *Habenaria albida*, *Draba incana*, *Helianthemum canum*, *Alsine verna*, *Rubus chamaemorus*, *Dryas*, *Saxifraga hirculus*, *Epilobium alsinifolium*, *Pyrola secunda*, and *Tofieldia palustris* noted]. *Nat.*, Sept. 1889, p. 284.

In Memoriam.

JOHN WILLIAM CHALONER.

WITH sincere grief we record the death of a mutual friend, ally, and valued coadjutor in Natural History—the Rev. John William Chaloner, M.A., rector of Newton Kyme, Yorkshire.

He was born there September 1st, 1811, his father being rector till his death in 1830. The Chaloner family were connected with the Guisborough family of that name, and with the Fairfaxes of Newton Kyme. The subject of this sketch succeeded to the living in 1851, and died at the beloved old Rectory, February 12th, 1894, in the 83rd year of his age, having been rector above forty years. He was confined to his room only about a fortnight previous to his death, and although twice married, he died a widower.

Mr. Chaloner was educated first at Rugby, where he was a favourite pupil of Dr. Arnold's. Afterwards, he proceeded to Magdalen College, Cambridge, and graduated in 1836. After ordination, he held the curacies of Stoke and of Bilborough, the burial-place of the great Lord Fairfax. Whilst at the latter place he lived at Boston Spa, and eventually gave up his curacy for Newton Kyme.

His churchmanship was of the good, old-fashioned type. He was intensely upright, sincere, and practical, without pretension. His religion was the outcome of an old text: 'Keep innocency, and do the thing which is right, for that shall bring a man peace at the last.' He was liberal and loving to all who wished to *be* and to *do* good, whatever they called themselves. His church being devoid of a vestry, it was his habit after prayers every Sunday to remove his surplice, and hang it on a peg, and robe himself in the black preaching-gown, in sight of the little flock assembled, then stepping into the pulpit, he gave them a good practical sermon (and I have heard many of them). He was a magnificent reader.

A capital story of his moderation, helpfulness, and catholicity is told of him, when he lived in the house where this sketch is written. He would drive off on Sundays to Bilborough, and overtaking on the road a poor Wesleyan local preacher, a Bostonian tailor, trudging along, the curate would pull up, and give him a lift, and parson and preacher trotted off, one to be deposited at his chapel door, and the other at his church, a few miles further on.

The old rector was well read in natural history, and kept well abreast with the times. The study of out-door life had great charms for him during his long life—a life full of activities of all sorts. Although he had no ambition to be a writer or chronicler (if he had

chosen he might have made another Selborne of Newton Kyme), he had an irrepressible capacity for collecting and storing facts, and making observations, his outlook and method of work as to plants, fishes, birds, beasts, and insects, very much resembling that of Gilbert White, Charles Waterton, and F. O. Morris. They would have been hail fellows, well met; but I do not think he ever saw the two last-named naturalists.

As an angler, Mr. Chaloner was very great. *Halcyon* in 'The Leeds Mercury Weekly Supplement' says: 'Another fine old angler gone to his rest. As a fly-fisher he was very hard to beat; in fact, I have on many occasions heard him termed by practical men "the best on the Wharfe" during his day. He was ever ready to do anything in his power to assist a brother angler, and the very last time that I had the pleasure of a long talk on angling matters with him, was when he brought me some feathers which I had told him I wanted to dress a certain fly. I always seem somehow to associate his name with the famous sporting parson, old Jack Russell.' Yes, he would do a good turn to anyone, poor or rich. For a great many years the Easter afternoon service might be slightly shortened, for the rector had to drive to York to catch the express for Loch Awe, where he awoke next day, with rods and tackle, and where he stayed to recreate for a fortnight. They all knew him at Loch Awe. He never liked to hear of anyone catching a bigger fish than himself, though it is understood he never caught salmon.

Chaloner's father used to tell his son about seeing flights of Bustards, and shooting, next to fishing, was one of the Rector's outdoor amusements. He had an unerring eye, and often some shot, for Ruff and Bittern, Goosanders, Mergansers, Skuas, Phalaropes, Scoters, and scarce birds generally. Many of them adorn his beautiful collection, mostly stuffed by the late Mr. Graham, of York. Stormy Petrels, Orioles, Nightingales, Waxwings, and other rare birds came within his ken, and his parish walks, undetected by any other observer, and notes of them being made, sometimes they were sent to the 'Naturalist,' or Clarke and Roebuck's 'Yorkshire Vertebrata.' I have many such notes now before me.

Two eminent men visited Newton in old times—Martin Lister and George Herbert. The latter would probably stay in the old Rectory. Lister collected shells in Chaloner's parish. A shell is said to be in the British Museum found by the Rector near the place where Lister found *Cyclostoma*—probably the two shells are identical.

A friend, caricaturing Chaloner's contempt for luxury, said 'He drives to Tadcaster at six in the morning, back to breakfast on bread

and water at eight, shoots all day, dines on bread and water at six, and goes to bed without nightcap.' He was not quite so abstemious. He was fond of tobacco. You would often see him driving with his pipe in his mouth, and he smoked an ounce of 'black shag' every day for 40 years. Did this account for his abounding health at 83? Always an optimist, he saw the bright side of things. He had much *bonhomie*. If you met him at a station, he would put his head out of window to give one notice, with radiant smiles, of some important 'find' or piscatorial catch. He was highly popular, a perfect gentleman of great integrity, and was liked by all who knew him.

I had almost forgot his bee-keeping, every detail of which subject was familiar to him. His hives were in his exquisite old garden, amongst wild plants, as well as cultivated ones. He attended to this garden himself until recent years, and here he grew the famous 'Newton seedling' strawberry which he raised from a sport, and which has brought so much money to the pockets of nurserymen, although he derived no advantage from it himself.

Space forbids, or much might be written of the Newton garden. It was often admired, and was the paradise of his pet cats, of which I once counted seven. In this garden he used to watch for the Hawfinch, Nuthatch, Crossbill, and other favourites, and a friend once lamenting that he couldn't find the *Gagea lutea* in its accustomed habitat, Chaloner remarked 'I should be surprised to hear of you finding it, for I have had every plant removed to my garden!' Quite recently our old friend was appointed a Conservator of Salmon Fishery on the Wharfe, and he was a representative Governor of Oglethorpe's and Dawson's Schools. He was a many-sided man, and thorough, and punctual in all he undertook.

Mr. Chaloner began the restoration of his pretty church last year mainly at his own expense. It was a plucky and benevolent thing for an octogenarian to do. It is now completed, but unfortunately he did not live to see the finished work. His grave, close by, is still covered by fresh wreaths, many of them from children, showing how the young people loved him. Several young men of talent and social status have to ascribe their present position to Mr. Chaloner's forethought, in finding out their abilities and getting them into the social circle and helping them to the sphere they now adorn by their early perceived qualifications.

The patron saint of Newton Kyme Church, singularly enough, is St. Andrew, the grand old fisherman, as was the good old Rector who lashed the Wharfe for half a century!

Boston Spa.

JOHN EMMET.

OCCURRENCE OF XANTHIA AURAGO IN SOUTH YORKSHIRE IN 1893.

WILLIAM HEWETT,

York.

WHILST looking over the collection of Messrs. Brooks and Bloor, of Rotherham, a few weeks ago, I noticed several examples of *X. aurago*, including two specimens of the variety *fucata*, which had been obtained by them whilst shaking ivy-blossom into their umbrellas, on the night of the 30th September, in a wood situate at a short distance from Rotherham. Both gentlemen very kindly furnished me with full particulars as to capture, etc., of which the following is a résumé:—Time, about 7 p.m.; wind blowing from south-west, and so strong that their umbrellas could only be kept up by dint of great exertion; rain falling heavily and rendering it necessary to frequently empty the umbrellas of water as well as discarded insects.

Four specimens were secured on this occasion, and ten more on subsequent evenings up to the 8th October. With the exception of the first capture, not more than two were taken on one night. Others would doubtless have been obtained, but that the *X. aurago* were at first taken for light forms of *Anchocelis rufina*. The species had evidently been out some little time when first discovered. Mr. Brooks informs me that as soon as *X. aurago* falls into the umbrella it rapidly ascends the side in order to escape. *Cerastis vaccinii*, *A. rufina*, and *X. ferruginea* were all common at the ivy-blossom.

Mr. G. T. Porritt, in his useful list of 'Yorkshire Lepidoptera,' published in 1883, says of *X. aurago*:—'A great rarity,' and gives 'Sheffield, 1859 and 1860' and 'York,' the latter place on the authority of Stainton's Manual (but neither date nor captor are given), as the only localities in which it had been taken.

Mr. H. H. Corbett records its occurrence at Doncaster last season. The Rotherham record (proving as it does that the species is well established with us), is therefore of great interest to Yorkshire entomologists generally, and I should here like to urge upon all of them to keep a sharp look-out for it next autumn, especially those resident in South Yorkshire; if this be done, I doubt not but that we shall hear of it during 1894.

February 23rd, 1894.

Naturalist,

THE CONSTITUENTS OF THE NORTH LANCASHIRE FLORA, 1597(?) - 1893.

LISTER PETTY,

Ulverston.

FIRST PAPER.

SOME years ago, wishing to know what had been published on the Flora of North Lancashire, I began to codify all the notices I could find. On account of the difficulty in seeing the necessary books, the subject was laid aside. In December 1890, Mr. Cosmo Melvill suggested the desirability of continuing the examination. Since then circumstances have aided me, and the results are below. Although the list of authorities is a long one, it is not complete, and any additional reference will be gladly received if sent to me, as above, and shall be published at the close of these papers; that is, if on examination the book contains anything, for some of the—seemingly—likely ones do not, and many more have been read than find a place here.

For the loan of books or for help I am indebted to Mr. J. W. Clapham, Leeds; Mr. J. Coward, Ulverston; and Mr. Jas. Irvine, London; and Mr. Melvill has kindly looked through a portion of my manuscript. The assistants of the British Museum Reading Room, 'behind the scenes' though they be, certainly deserve my thanks. The Banksian collection is housed some distance away, and I gave them many journeys.

The District.—The area included in North Lancashire is that portion of the county bounded by the Duddon, the Brathay, Esthwaite Water, west shore of Windermere to the Ferry, and thence across the lake to near Storrs Hall. Along the Lancashire boundary to the Winster and down it to its mouth, on the shore below Grange-over-Sands. Back again up the coast to the Duddon, taking in Walney Island. This is the Lancashire portion of Watson's vice-county 69,¹ so often wrongly quoted as 'Westmorland and Furness.' Furness is the northern half, Cartmel the southern. These two make up North Lonsdale, or 'Lonsdale North of the Sands.'² The peculiarity of the situation is described by a lady who knew the district as being 'almost an island . . . except

¹ H. C. Watson, *Cybele*, 1847-59; *Top. Bot.*, Ed. 2, 1883; also first edition.

² Baines, *Lancashire*. Evans, *Furness and Furness Abbey*, 1842.

for a few hundred yards.¹ The ground rises from the shore level to 2,633 feet on Coniston Old Man.

Method of Working.—The object being to give a chronological view of the plants, the method followed has been to give, 1st, the name in Lond. Cat. (with one or two exceptions); 2nd, the name given to the plant in the work in which it is first given as growing in N. Lancashire (if different), followed by the locality. After, the arrangement, I think, requires no explanation, changes in name of locality (not necessarily a different one), or authority being noticed. In dealing with the old names there may be errors in determination, but, it is hoped, few. In the localities, too, it is sometimes difficult to understand what a writer means, and I may have claimed more than I ought for the northern part of the county.

The Authorities.—Books seen for names, etc., but which contain no Lancashire localities. 1538. Turner, W., *Libellus de re herbaria*, 4to, ed. B. D. Jackson, in facsimile, London, 1877, 4to. 1548. Turner, W., *The names of herbes, etc.*, Lond., 8vo, and the reprint of 1881 by James Britten, for Dialect Society. 1568. Turner, W., *The Herbal Colln.*, folio. 1570-71. Lobel, M. de, *Stirpium adversaria nova*, London, folio. 1596 and 99. Gerard, J., *Catalogus*, ed. by B. D. Jackson, 4to, 1876. 1605. Lobel, *Adversaria*, London, folio. 1664. Turner, Rob., *Botanologia*, Lond., 8vo; there seems no difference except date in ed. of 1687. 1691. Pluknet, Leo, *Phytographia*, etc. 1709, and ed. of 1764. Petever, Jas., *Gazophylacium, Cat. omnia rerum*, London, folio. 1715? Petever, Jas., *Herbarii Britannici*, folio, for plates only. 1768. Miller, P. *Gardeners' Dictionary*, ed. ii.

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1597. Gerard, J. *The Herball*, London, folio. 1633. Gerard, ed. by Johnson; and 1636 also.
1640. Parkinson, J. *Theatre of Plants*, folio.
1650. How, W. *Phytologia Britannica*, 12mo.
1655. Lobel, M. de. *Stirpium Illustrationes*, ed. Guil. How, 4to.
1666. Merrett, C. *Pinax Rerum Nat. Brit.*, 12mo. 1667, another edition, (?) title only. In the Brit. Mus. is a copy of 1666 edition with MS. notes, queried in the catalogue 'by the author?'; the writing appears the same throughout, and one MS. note is signed 'C.M.' But see Trimen and Dyer, *Flora Middlesex*, 1869, p. 372, footnote.
1670. Ray, J. *Cat. Plant. Ang.* 1677, ed. ii., both 8vo.

¹ Webb, *The Fells of Swarthmoor*, 1865, p. 2.

- (1680 circ. Lawson's Note Book, see 1889).
- 1686-1704. Ray, J. Hist. Plant. 3 vols. folio. 1693, vols. i. and ii.
The edition here quoted.
- (1688. Lawson, Thos. Letter to Ray, April 1688. See below, 1718, 1724, 1848).
1688. Ray, J. Fasciculus Stirp. Brit. 8vo.
1690. Ray, J. Synopsis, ed. i., 8vo. 1696, ed. ii., 8vo.
1693. Dugdale, Sir W. Monasticon (*Atropa* at Furness Abbey).
1695. Camden, W. Britannia, ed. Gibson. Plants by Ray.
1699. Bobart, J. Plant. Hist. Oxon. Universalis (Pars tertia, etc., p. 450).
1700. Leigh. Nat. Hist. Lancashire and Cheshire, folio. Most of the localities very widely given.
1709. Robinson, Rev. Thos. Nat. Hist. Westmorland and Cumberland, 8vo. Contains a list of Lawson's, found by Robinson, in a copy of Ray's Catalogue, in the possession of Lawson's daughter—Mrs. Thompson.
- 1710-11. Salmon. Botanologia, 2 vols. folio. Scarcely differs from Gerard.
- 1714, etc. Petever, Jas. 'An account of divers rare plants.' In Philos. Transactions.
1718. Derham, Dr. W. Philosophical Letters of Ray, London, 8vo.
1724. Ray, J. Synopsis, ed. iii., by Dillenius, London, 8vo.
1744. Wilson. Synopsis of Brit. Plants, Newcastle, 8vo.
1746. Blackstone, J. Specimen Botanicum, London, 8vo.
1760. Scott, Dr. Ed. Derham's Select Remains of Ray, London, 8vo.
1762. Hudson, W. Flora Anglica, London, 8vo, 1778. Ed. ii.
1763. Martyn, J. Plantæ Cantab. 'To which are added lists of the more rare plants growing in many parts of England and Wales,' London, 8vo.
1774. West, W. Antiquities of Furness (*Atropa* at Furness Abbey).
1775. Jenkinson, J. Description of Brit. Plants, Kendal, 8vo.
1776. Withering, W. Botanical Arrangement, 2 vols., London, 8vo.
- 1777-1828. Curtis, W. Flora Londoniensis, 5 vols., folio, ed. Curtis, W. J. Hooker, W. Graves. These vols. seen at Brit. Mus.; Geo. III.'s copy; dates of vols. not consecutive. A made-up copy. Quoted here under date of vol.
1778. Robson, Stephen. The British Flora, York, 8vo. (Most of his Lancashire records are taken from Jenkinson without acknowledgment).

- 1785-90. Bolton, J. *Filices Britannicæ*, 2 vols., 4to.
- 1787-90. Withering, W. *Botanical Arrangement*, ed. ii., 3 vols.; 1796, ed. iii., 3 vols.; 1801, ed. iv., 4 vols.; 1812, ed. v., 4 vols.; 1818, ed. vi., 4 vols.; 1830, ed. vii., 4 vols. All in 8vo.
1789. Camden, W. *Britannia*, ed. R. Gough, 3 vols., London, folio.
1789. Berkenhout. *Synop. Nat. His. Great Brit.*, 2 vols., London, 8vo.
- 1790-1814. Sowerby, and Smith, J. E. *English Botany*, ed. i., 36 vols., 8vo.
1799. Hull, Dr. J. *Flora Anglica*, 2 vols., 8vo.; 1808, ed. ii., 2 vols., 8vo.
- 1800-1804. Smith, J. E. *Flora Britannica*, 3 vols., London, 8vo.
1805. West. *Antiq. Furness*, ed. by W. Close. *Furness plants as in Withering*. Ed. iii. So it is stated; but the list contains plants that are *not* in ed. iii. Perhaps Atkinson communicated them to Close, or it may be West himself, who, by the way, found (so he said) *Echinophora* in Furness.
1805. Turner and Dillwyn. *Botanist's Guide*, 2 vols., 8vo.
- 1828-30. Smith, Sir J. E. *English Flora*, ed. ii., 8vo.
1830. Otley, Jonathan. *Guide to the Lakes*, ed. iv. The first edition to contain a plant list. 1834, ed. v.; 1838, ed. vi.; 1844, ed. vii.; 1849, ed. viii. All in 8vo.
1830. Hooker, Sir W. J. *British Flora*, ed. i.; 1835, ed. iii.; 1838, ed. iv.; 1842, ed. v.; continued under 1850.
- 1831-43. Sowerby. *Supplement to English Botany*, 3 vols., London, 8vo. I have not been able to see vols. iv. and v.
- 1832-47. Sowerby and Smith. *English Botany*, ed. ii., 12 vols., London, 8vo.
- 1835-37. Watson, H. C. *New Botanists' Guide*, 2 vols., Lond., 8vo.
1837. Francis, G. W. *British Ferns*, London, 8vo.
1842. Wordsworth, W. *Guide to the Lakes. Plants by Gough, of Kendal*. London and Kendal, 8vo.
1842. Parnell, R. *Grasses*. London.
1843. Evans, Francis. *Furness and Furness Abbey*, Ulverston, 8vo. *Furness plants as in Withering*, ed. iii.
1843. Jopling. *Furness and Cartmel*, Ulverston, 8vo. *Plants: Furness by Aiton; Cartmel by W. Wilson*.
1843. Babington, C. C. *Manual of British Botany*, ed. i.; 1847, ed. ii.; 1851, ed. iii.; 1856, ed. iv.; 1862, ed. v.; 1867, ed. vi.; 1874, ed. vii.; 1881, ed. viii. All 8vo.
- 1844-1862. *Phytologist*. Quoted under the year.

1847. Steele, W. E. Handbook of Field Botany, Dublin, 8vo.; 1851, ed. ii., 8vo.
- 1847-52. Watson, H. C. Cybele Britannica, 3 vols. (Nothing in vol. iv., 1859.)
1848. Ray's Correspondence. Ray Society, ed. E. Lankester. Lawson's Letter to Ray, pp. 197 et seq. Old names translated into binomials by Prof. Babington. 8vo.
1849. Botanical Gazette, ed. A. Henfrey, 3 vols.
1850. Hooker and Arnott. British Flora, ed. vi.; 1855, ed. vii.; 1860, ed. viii.
1851. The Naturalist, vol. i.
1854. Newman, E. British Ferns.
1855. Sowerby and C. C. Johnson. British Ferns.
1855. Miss Martineau. Guide to the Lakes. Best edition 1861, but dated 1855. Plants by Dickinson. London and Windermere, 8vo.
1855. Bradbury and Moore. Nature-printed Ferns, 1 vol., folio.
1858. Irvine, Alex. Handbook of British Plants.
- 1859-60. Bradbury and Moore. Nature-printed Ferns, 2 vols., 8vo.
- 1862-71. Journal of Botany. Ed. Seeman, Baker, Trimen. 1872 et sequ. Ed. James Britten. Quoted under year.
- 1863-90. English Botany, ed. iii., by Dr. Boswell, 12 vols., 8vo.
- 1864-7. The Naturalist. Quoted under year.
1864. ¹Linton, W. J. The Lake Country.
1865. Bentham, Geo. Handbook, 2 vols., 8vo. Originally issued in parts, 1863-5.
1865. Lowe, E. J. Our Native Ferns, 2 vols., 8vo.
1865. Linton, W. J. Ferns of the Lake Country. 1878, ed. 2, by W. Clowes, of Windermere, the edition here quoted. Both in 8vo.
1869. Aspland. Guide to Grange; Plants by A. Mason and L. Aspland.
1870. Watson, H. C. Cybele, Compendium, 8vo.
1874. Hodgson, Miss E. 'North or Lake Lancashire,' in J. of Bot. A few copies were reprinted, and, as I find, unfortunately too late, separately paged.
1884. Hooker, Sir Jos. Students' Flora, ed. 3, 8vo.
1885. Baker, J. G. Flora of Eng. Lake District, 8vo.
1887. Bentham, G. Handbook, ed. 5, by Sir J. Hooker, 8vo.

¹Linton lived at Brantwood, Coniston, so his 'common' is taken as not uncommon in his immediate neighbourhood.

- 1888-9. The Westmorland Note-book, ed. J. A. Martindale for Botany.
1890. Hankinson. Guide to Grange-over-Sands (no localities). 1893, a revised edition as 'Atkinson's Guide,' with plant list revised to date.
1892. Haviland, A. The Geographical Distribution of Disease. 8vo., p. 317, et seq., 'Flora Calcaria.'

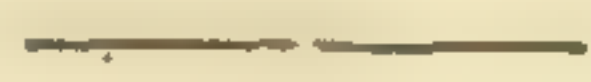


C.F.R.—First Record for Great Britain from Mr. W. A. Clarke's articles in J. of Bot., 1892 et seq., by his kind permission.

Rep.—Authority or locality repeated.

A species within brackets doubtful either as species or record, e.g. [*Echinophora* . . .]

Order of London Cat., ed. 8.



FLOWERING PLANTS.

Clematis Vitalba L. C.F.R., 1548.

1874. J. of B., Miss E. Hodgson. High Stott Park, west side of Windermere. 1885. Baker's Flora, Miss Hodgson, rep. On the limestone rocks near the top of Yewbarrow, over Grange; hedges in Cart Lane, between Grange and Kent's Bank, W. Foggitt, F. Clowes, J. G. Baker.

Thalictrum minus L. C.F.R., 1660.

1864. Linton, Lake Country, 318. 'Common,' no locality. 1874. J. of B., Miss E. Hodgson, no locality.

Thalictrum maritimum (Syme). *Thalictrum minus* Gerard.

First reported by Lawson to Ray, April 1688.

1688. Ray, Fascic., 23. In the Isle of Walney, plentifully, Lawson. 1718. Derham, Philos. Lett., 222, rep. in Lawson's letter to Ray, 1688. 1848. Ray Corresp., Ray. Soc., 197, et seq., above rep. 1872. J. of B., 61, near Bent Haw Scar, Walney, C. Bailey. 1874. J. of B., Miss E. Hodgson, no locality. 1885. Baker's Flora, 15-16. Lawson confirmed, in Biggar Bank, Miss E. H. 1888. Westm. Note-book, 70. Lawson, rep. in 'Early Westmorland Plant Records,' J. A. Martindale.

[**Thalictrum Kochii** (Fr.). Sub *T. saxatile* DC.

1851. Bab. Man., ed iii., 4. Brathay, Mr. Hort. 1856. Bab. Man., ed. iv., 4. Damp places in the Lake District. 1863. Eng.

Bot., ed. iii., vol. i., 7. Brathay (Babington). These statements repeated in 'Manual,' 1862, 1867, 1874, 1881. As the Brathay is the dividing line between Westmorland and Lancashire, and as I have not seen the plant there, am unable to determine if in Lancashire or not. Mr. Baker places it in Westmorland.]

Thalictrum flexuosum Reichb. *T. majus* Gerard.

First reported by Lawson to Ray, April, 1688.

1718. Derham, Philos. Lett., 222. Lawson's letter to Ray, 1688. 'By Cartmel's old well, near the Medicinal Well.' 1848. Ray's Corresp., Ray. Soc., 197, et seq. Lawson to Ray, rep. 1869. Aspland's Guide. Within six miles of Grange. A. Mason.¹ 1874. J. of B., Miss E. Hodgson. Foot of Windermere. Low Wood Bridge. 1885. Baker's Flora, 16. Lawson and Miss Hodgson, rep. Stony shores of Coniston Lake at Waterhead and elsewhere, Miss Beever, Rev. F. Addison, J. G. Baker. 1885. J. of B., 330. Windermere at Low Wood, A. W. Bennett. 1888. Westm. Note-book, 70. Lawson, rep. in Mr. Martindale's 'Early Records.'

Anemone nemorosa L. C.F.R., 1562.

1843. Jopling, Furness and Cartmel, 257. Woods about Conishead Priory (Aiton); and Holker (W. Wilson). 1864. Linton, Lake Country, 318. 'Common,' no locality. 1874. J. of B., Miss E. Hodgson, no locality.

Ranunculus aquatilis (L.). Aggregate. C.F.R., 1562.

1843. Jopling, Furness and Cartmel, 257. In rivers and ponds, Aiton and Wilson. 1864. Linton, Lake Country, 318. 'Common,' no locality. *N.B.* In Trimen and Dyer's Fl. Middlx., 1869, 14, it is stated that London botanists of rather earlier date applied this name to *R. floribundus* Bab., which may explain Aiton, Wilson, and Linton.

Ranunculus trichophyllus Chaix. C.F.R., 1855.

1874. J. of B., Miss E. Hodgson. Bardsea Mill Pond. Urswick Tarn. Miss Hodgson includes *R. pantothrix* (Auct.), but *R. trich.* and *R. pant.* (Brot.) are synonymous. Roadside ditches, Plumpton. What is *R. pantothrix* 'Auct.'?

Ranunculus heterophyllus Web. C.F.R., 1855.

1874. J. of B., Miss Hodgson. Urswick Tarn. In a spring pool, Plumpton.

¹ Of Grange, b. 1826, d. 1888. Buried Cartmel Priory Church. Veterinary Surgeon. Once in the army. Plant List in Aspland's Guide.

THE PARTRIDGE.

The Partridge | —**Natural History** | by the Rev. H. A. MACPHERSON |
Shooting | by A. J. STUART-WORTLEY | **Cookery** | by GEO. SAINTSBURY
 | [Woodcut] | with illustrations by A. J. Stuart-Wortley, A. Thorburn, and
 C. Whympere | London | Longmans, Green, & Co. | . . . | 1893 | . . .

THIS is the first volume of the 'Fur and Feather Series,' published by Messrs. Longmans & Co., and the design is, as the able editor, Mr. Alfred E. T. Watson, states in the preface, to present monographs as complete as possible of those birds and beasts which in England are included under the head of Game. Each volume of the series is divided into three parts, the first treating with the Natural History of the species, the second with the killing, and the last with the cookery. In the present the Natural History of the Partridge has been written by the Rev. H. A. Macpherson, the shooting by Mr. A. J. Stuart-Wortley, and the final, or gastronomic portion, by Mr. George Saintsbury.

From the well-known character of the authors, each recognised as pre-eminently an authority on his special subject, much might naturally be looked for. The style is lively and amusing, the matter well chosen, and we admit, that although from a boy we have been keen and devoted followers of the bonny brown birds, and thought we knew all about them, we rise from a perusal of these pages feeling that it is never too late to learn.

Mr. Macpherson's first chapter refers to the distribution of our charming game bird at home and abroad, with a special reference also to its supposed migratory instincts, perhaps latent and rarely to be detected in this country, but much more decided in some parts of the Continent. Next we have the history of the Partridge in the fields, their habits and great diversity of food, both insect and vegetable. We have ourselves noticed, a fact which is not mentioned by the author, that in districts where grass lands predominate, and the few scattered stubble are cleared of their last trace of grain, that Partridges feed much on the tender shoots of grasses, a diet which certainly does not improve their flavour, for we think it goes beyond dispute that for the table nothing excels a plump young grain-fed Partridge late in September. In succeeding pages Mr. Macpherson treats of love, courtship, and nesting, and next follows a prettily-written chapter on Partridges as pets; then a valuable and scientific treatise on colour and the variations in plumage, and the readiest means of distinguishing the male from the female, followed by a graphic sketch of poaching and poachers.

In the next 167 pages, Mr. A. J. Stuart-Wortley has gone most exhaustively into the whole subject of killing Partridges in the most scientific and sportsmanlike manner, his remarks being illustrated by numerous diagrams. Walking up, driving, shooting with a kite, the proper porportion of ground stock to be left at the end of the season, wonderful and historic records of heavy bags, egg-poaching, nothing has been omitted in these pleasant pages; and now having killed our bird, Mr. Saintsbury finishes the volume with much excellent advice as to the best means of preparing it for the table, the mere perusal of which makes our mouth water. There is, we consider, no greater test of a thorough cook than the style in which winged game and wild fowl is sent up, with all the necessary accompaniments in harmony. But, alas! in these degenerate days how very frequently is it that with these excellent persons high wages and incompetency march hand in hand, and that although the gods send good food, the devil finds the cooks. It should ever be borne in mind that the cooking of game is a delicate and scientific operation to be conducted with due caution and close attention before an open fire, and not left to take care of itself within the oven of a modern close range.

Not the least prominent feature in this volume are the numerous illustrations by Mr. A. J. Stuart-Wortley, Mr. A. Thornburn, and Mr. C. Whymper. The volume, at the very moderate price it is issued at, is well worth buying for these alone. So exquisitely are they drawn and engraved, that we made up our mind at once to buy each as it appeared, and place them on our shelves as things of beauty and a joy for ever, not alone to ourselves, but to those who follow after, happy memorials of the dear old days spent on stubble and in woodland, and now for ever passed beyond recall.—J. C.

NOTE—ORNITHOLOGY.

Goldfinch, etc., near Skipwith Common, Yorkshire.—Whilst walking on the high road between Cliffe and Skipwith Common on the morning of the 8th Jan., 1894, about 10 a.m., I noticed a male Goldfinch (*Carduelis elegans*) in splendid plumage, busily flitting along from one thistle stem to another. The ground at the time was thickly covered with snow. It frequently allowed me to approach within some three or four yards of it, and despite the severity of the morning I took advantage of this familiarity to observe its sprightly movements for some twenty minutes. Although I have been a close observer of nature in very many districts in Yorkshire, and especially in the neighbourhood of York, for the past twenty years, this was the first occasion I had had of seeing *C. elegans* in a state of nature. The other birds of interest I noticed during my walk were two males and one female Bullfinch (*Pyrrhula europæa*), a large flock of Wild Ducks (*Anas boscas*), a small party of Cole Tits (*Parus britannicus*), and several flocks of Fieldfares (*Turdus pilaris*).—WILLIAM HEWETT, York, 23rd February, 1894.

DISPERSAL OF SHELLS.

The | **Dispersal of Shells** | An Inquiry into the Means of | Dispersal possessed by Fresh-water | and Land Mollusca | By | HARRY WALLIS KEW, F.Z.S. | with a Preface by | Alfred Russel Wallace, LL.D., F.R.S., etc. | with illustrations. | London | Kegan Paul, Trench, Trübner & Co., Ltd. | . . | 1893. [International Scientific Series, Vol. 75, crown 8vo., cloth, xiv. + 291 pages, price 5s.]

THIS volume of a series which includes a large number of most interesting and valuable works upon an unrestricted variety of scientific subjects, is distinctly of a more practical and of a less generalised or theoretical nature than many of its companion volumes. It is nevertheless equal to any of them in interest, and as a collection of hitherto isolated facts now brought into juxtaposition, is calculated to be of the utmost possible use to any who may feel tempted to enter the field of speculation, with a view of arriving at a knowledge of the causes which bring about the dispersal of mollusca.

The book consists of nine chapters. The first is devoted to fresh-water shells and to the anomalies in local distribution which they present. A number of instances are given on reliable authority to show how quickly even isolated pieces of water and new ponds receive their molluscan denizens. The second chapter deals with the various means of dispersal which have been placed on record, and numerous instances to show the tenacity of life which materially assist the bivalve mollusca in their involuntary migrations from place to place. The 'transplantation' of bivalves is dealt with in the third chapter, mostly recording their attaching themselves to insects, amphibians, birds, etc., and so obtaining their means of transit. The transplantation of univalves follows in the fourth chapter, in which it appears that operculated mollusca share to some extent the methods by which the bivalves move from place to place—though the instances of attachment of non-operculates are decidedly less numerous. In the fifth chapter, the tenacity of life manifested by land shells is demonstrated by the citation of numerous striking examples. The means of dispersal of land mollusca are dealt with in the sixth chapter, and those of slugs in the seventh. The influence of ocean currents, of rivers and floods, of wind and of various animal agencies find due mention, fortified by numerous recorded instances. The dispersal of fresh-water and land mollusca by man—sometimes voluntarily, but mostly unintended by him—finds a place in the eighth chapter, and the ninth, a lengthy one, deals with the fresh-water and land mollusca which have been introduced into the British Islands by human agency—reviewing at

length and in detail the history as British of numerous non-indigenous species of mollusca which have been noted by conchologists.

Altogether the work is a valuable and remarkably interesting collection of facts bearing upon a subject which is of considerable importance, and the author is to be congratulated upon the result of his labours. It is special matter for commendation that chapter and verse is given for each statement, and that every observation is credited to its observer. Mr. Kew very wisely abstains from the theorizing which is, we are afraid, too much of a blot upon works dealing with similar subjects, and by giving the facts themselves in a classified and orderly manner, with the authorities for them, he has placed his readers under a real obligation. The publishers are also to be congratulated upon including in their series a work upon a subject so interesting to naturalists as the work now before us deals with.

NOTES—ORNITHOLOGY.

Green Woodpecker near Ripon.—I have seen and heard a Green Woodpecker (*Gecinus viridis*), more than once this month, in a wood near my house. This bird is a rare visitant in this locality.—R. A. SUMMERFIELD, North Stainley Vicarage, Ripon, January 29th, 1894.

Bittern and Slavonian Grebe in Yorkshire in 1893.—When at Hull on the 20th January last, I called upon my friend Mr. J. Haines, taxidermist, who showed me a fine Bittern (*Botaurus stellaris*) (sex not determined) shot close to the town about the middle of December 1893. He also informed me that he had had a Slavonian Grebe (*Podiceps auritus*) to set up, shot about the same time and place as the Bittern.—WILLIAM HEWETT, Howard Street, York, Feb. 23rd, 1894.

Migration of the Yellow Wagtail.—*Motacilla raii* is apparently one of those species which usually move at night, as although large flocks may be seen one day and be entirely absent the next, it is very rarely, in my experience, that the bird is observed in the act of migrating. No doubt the birds observed by Mr. W. Eagle Clarke passing along the north side of the Humber would possibly pass to the south side, but the direction of flight would then be N. to S. or nearly so, and would land the birds on the Lincolnshire coast somewhere between Cleethorpes and Grainthorpe Haven according to the direction of the wind blowing at the time. This, however, does not affect the question of the origin of flocks observed coming in from the E. on the part of the coast not overlapped by the Spurn—say from Grainthorpe Haven to Donna Nook or Saltfleet—and this is the part of the coast on which I have most frequently seen the Yellow Wagtail in migration. It is highly improbable that birds leaving the Yorkshire coast fly out to sea and then double back so as to arrive on this coast from the E. And if this is the case with *M. raii*, why not also with the multitude of other birds which arrive from the E. every autumn. Mr. Whitlock states that he did not meet with the Yellow Wagtail in the vicinity of Skegness in 1891. I find from my notes that it was unusually scarce during that autumn. But even had this not been so, I do not think any argument could be based upon the circumstance, as a common species often manages to escape observation almost entirely in particular seasons.—G. H. CATON HAIGH, Grainsby Hall, Great Grimsby, Lincolnshire, March 16th, 1894.

MIGRATION OF THE YELLOW WAGTAIL.

JOHN CORDEAUX, M.B.O.U.,
Great Cotes House, R.S.O., Lincoln.

MR. WHITLOCK, in his notes on this species in the March number of 'The Naturalist,' suggests the improbability of Yellow Wagtails (*Motacilla raii*) making a journey of one thousand miles across Europe without coming under the observation of continental ornithologists. This appears to me a very narrow and contracted view of migration, long and continuous flights over land and sea being the rule and not the exception. A notable instance is that given by Herr Gätke, of the Arctic Bluethroat, nowhere met with in central and southern Europe, which makes the journey between the Nile Delta and Heligoland in a single flight. Other instances might be freely cited.

I have not the least doubt that Mr. W. Eagle Clarke is correct in his statement that numbers of Yellow Wagtails, possibly coming from the dales of North and West Yorkshire, pass from the Spurn to Lincolnshire, following the coast route to the south exactly as do the Wheatears, Redstarts, and Willow Wrens; but this fact in no way militates against my contention that the Yellow Wagtails observed on the Lincolnshire coast (beyond the overlapping of the Spurn), and coming in directly from the *East* in small flocks continuously during the day, are such as presumably come from the continent and are not coasters. To assume the contrary appears absurd and ridiculous to those who know the coast. If the latter, why not the whole of those mighty hosts of small immigrants which fetch the east coast in the autumn by the same route and in the same manner?

There is no necessity for Mr. Whitlock to bring the main colony of *M. raii* from their summer home on the lower Volga and basin of the Caspian, across Europe and the North Sea, for this species is sufficiently plentiful in Belgium and Holland to account for the occasional flights which undoubtedly do cross to our East coast in the autumn. There need be no surprise that *M. raii* should not bring across the continental *M. flava* at the same time; this is not to be expected when we know that each has its own summer quarter, and in the autumn follows its own line. So also the Pied and the White Wagtails. All our summer visitors to Europe have a range, beyond which their occurrence must be considered accidental.

Mr. Whitlock says he met with no flocks of *M. raii* on the Lincolnshire coast in September 1891. It appears from this he did not come across either the 'coasters' or any incoming Yellow

Wagtails. How long were his observations continued?—for a week or ten days? Before arguing from what is purely negative evidence he ought to have made continuous daily observations during the entire season.

Birds do not always take the most direct routes to and from their summer and winter quarters, and the lines of migration followed are often inexplicable or most difficult to understand.

OSBORNE HOUSE, TUNBRIDGE WELLS,
March 8th, 1894.

NOTE—MAMMALIA.

Lesser Shrew in Cheshire.—On January 25th I received a Lesser Shrew (*Sorex pygmaeus*) from Mr. Newman Neave, of Rainow, near Macclesfield, which had been brought into the house by a cat a day or two before. On the dorsal surface the fur was dull brown, on the lower parts mouse grey, with silvery reflections; the line of demarcation between the two colours being very distinct on the tail, which was stouter, more hairy, and much longer in proportion to the size of the animal, than in *Sorex vulgaris*. The snout was longer than in that species, and furnished with longer whiskers. On slightly cutting open the angle of the mouth it was seen that the fifth pointed tooth behind the claw-shaped incisors was larger than in *S. vulgaris*, and, being in the same line as the others, could be distinctly seen from the outside. The little creature, a male, measured from the tip of the snout to the root of the tail, 2 in. 3 lines, and 1 in. 7 lines from the root to the tip of the tail. In pellets of the Barn Owl from different parts of the county I almost invariably find skulls of *S. vulgaris*, and more rarely those of *Crossopus fodiens*, but have not hitherto met with *S. pygmaeus*, and believe that the present example, which was incidentally mentioned by Mr. Neave in 'The Zoologist' for March (p. 110), is the first which has been recorded from Cheshire.—CHAS. OLDHAM, Ashton-on-Mersey, March 6th, 1894.

NOTE—FISHES.

Voracity of the Codfish and Pike.—Many anecdotes have been given about the voracity of those finny hunters of the seas and freshwaters, the Shark and the Pike. One unrecorded instance may be mentioned of a shot-at and winged Partridge (*Perdix cinerea*), that fell and then floated struggling along upon a deep in the river Yore whilst a retriever was swimming to fetch it, having been seized by a Pike (*Esox lucius*) close to the dog's nose, taken down and seen no more. The Codfish (*Gadus morrhua*) has also a huge capacity for swallowing, and a fish four feet long exposed for sale in Ripon Market Place, on Thursday, March 22nd, upon being decapitated and opened was found to have a mature and finely-plumaged sea-bird in its interior. It was a Scout or Guillemot (*Lomvia troile*), weighing well on to four pounds, and nearly sixteen inches long from bill tip to tail end. There were no signs of decomposition nor action of the fish's digestive powers on foot or eye, and no marks of maiming by shot or otherwise were observed; therefore, the bird may have when diving and darting under water, gone along head first into the maw of the voracious monster waiting open-mouthed to receive it not long before being captured itself. The Guillemot is now stuffed and in the possession of Mr. Nutbrown, with Messrs. Brooks & Co., High Skellgate, Ripon.—T. C. HESLINGTON, 2, North Road, Ripon, April 20th, 1894.

NOTES AND NEWS.

At the meeting of the Entomological Society of London, held on March 28th, Mr. Percy H. Grimshaw, of the Edinburgh Museum of Science and Art, and formerly an active worker in Yorkshire, was elected a Fellow of the Society.

At the same meeting, the Rev. T. A. Marshall communicated a paper entitled 'A Monograph of the British Braconidæ, Part V.'

BIRD-NESTING IN NORTH-WEST CANADA.

Bird-Nesting in North-West Canada. By WALTER RAINE.

THIS is an 8vo. volume of nearly 200 pages, and describes an egg-collecting journey to some of the more out-of-the-way regions of Manitoba and Assiniboia, together with a description of the scenery between Toronto and Vancouver as observable from the Canadian Pacific line of railway.

At the beginning of the book there is an index, but with separate headings for Ornithology and Zoology, which can scarcely be commended.

Coloured plates of more or less merit, presumably from the pencil of the author, are interspersed throughout the work. One contains figures professedly of the eggs of the Knot obtained in Iceland, but in the absence of any record of the bird having been shot, or even seen, these illustrations lose something of the interest attaching to a thoroughly well identified observation. Minute descriptions and dimensions of specimens in the author's collection are useful, but somewhat tedious in their frequency to the general reader.

In these days of rivalry, the practice of wholesale egg plundering cannot be too strongly censured; true scientific research should ever be linked with much discretion, and 'understand rather than destroy' should be the primary motive in all bona-fide investigation. Mr. Raine has apparently not fully grasped the importance of this most necessary discrimination, although some remarks on the last page of the book seem to point otherwise. No wonder reports come to us year by year about the rapid decrease in numbers of scarce birds when such thoughtlessness is indicated as in the following passages, which, alas, are by no means the only ones of the kind:—

Page 129. 'The Iceland Gyr Falcon is a handsome bird and lays handsome eggs, as I can testify by a fine series of thirty-six eggs now before me, which is probably the largest series ever brought together; all these eggs are from Iceland, where the birds breed among the crags of the sea-coast. The late W. C. Flint, of San Francisco, an enthusiastic oologist, had also a nice series of sets of the Iceland Falcon, which I obtained for him. The series on the table before me were selected from close upon fifty specimens that have been collected in Iceland this last six years.'

Again, pp. 53-54. 'During the past five seasons my Iceland collector has sent me some 350 eggs of the Snow Bunting. Out of this number were forty-one clutches of five eggs each, nineteen clutches of four eggs, and eleven clutches of six eggs, so that five eggs appear to be the regular number.'

Now it is quite possible to live in Iceland for weeks and never see a single Iceland Falcon, so that Mr. Raine's 'collectors'—about whom he tells us a great deal—must be accountable for endangering the extermination of a most interesting and beautiful bird from the Icelandic list. One naturally looks at the fly-leaves of the book under review for an advertisement, and, finding none, feels more than ever astonished at the records of wholesale plunder among birds' eggs so constantly recorded throughout the volume.

Whilst true bird lovers in England and elsewhere are doing all in their power by protection (legislative and otherwise) and by education to secure the safe breeding of rare species—to say nothing of commoner ones—it is most discouraging to read of the ravages in various countries (even in Europe) made by Mr. Raine's 'collectors.'

Mr. Raine is evidently an enthusiast, and undoubtedly worked hard and well during his trip, but many of his conclusions should be taken with a due amount of care, and we can hardly recommend the book to the scientific reader because of its manifold inaccuracies. One example out of many will sufficiently show the truth of this:—

'My next find was a nest and five eggs of the Great Grey Shrike. The nest was a large bulky structure of twigs, the inside made of roots and weeds. The Great Grey Shrike is found in Europe, and breeds at Valkenswaard, in Holland, and I have a number of sets that were collected in that country. It does not breed in the British Isles, being only an occasional visitor there.'

To the ordinary reader, fond of books of travel, there is a certain undeniable interest to be had out of a perusal of Mr. Raine's egg-collecting adventures. This book is evidently the outcome of a generous desire on the author's part to inculcate in the minds of others a taste like his own for the beauties of the 'bird-world' around.

J. B.

NOTES AND NEWS.

The Birmingham Natural History and Microscopical Society has joined hands with the Philosophical Society of the same town, and as the Birmingham Natural History and Philosophical Society we wish it a long and useful career. The first number of the Society's Journal is to hand, in which is published short histories of the two institutions and particulars of the amalgamation.

From Messrs. Jarrold & Sons we have received 'Object Lessons in Botany,' by Edward Snelgrove, a book intended for teachers of Standards I. and II. The thirty-three lessons it contains are well put, and the matter given in such a style as to be readily understood by the merest child. Numerous illustrations are a commendable feature of the work.

An author's reprint is before us of an interesting paper by Messrs. Thomas Hick, B.A., B.Sc., and James Lomax, in which they describe and figure 'A New Sporiferous Spike from the Lancashire Coal Measures' at Moor Side, near Oldham. The paper appears in the Memoirs and Proceedings of the Manchester Literary and Philosophical Society, Vol. 8, and it is proposed to name the fossil *Calamostachys oldhamia*, from its locality.

A CRITICAL CATALOGUE OF LINCOLNSHIRE PLANTS:

FROM ALL KNOWN SOURCES.

REV. E. ADRIAN WOODRUFFE-PEACOCK,

*Vicar of Cadney, Brigg; Botanical Secretary of the Lincolnshire Naturalists' Union;
Curator of the Lincolnshire County Herbarium.*

SECOND PAPER.

First Paper, with all explanations, *Nat.*, March, 1894, pp. 85-92.

CRUCIFERÆ (*Continued*).

- Arabis sagittata** DC.† Native. N.—5. S.—4.
- CARDAMINE AMARA* L. Native, if it exists? N.—Mablethorpe; Mr. J. Larder, *Wesley Naturalist*, 1887, p. 283. S.—Stamford, by the side of the Welland, near the waterfall, 1838; Browning, in Dodsworth.
- Cardamine pratensis** L.† Native. Common N. and S.
- Cardamine hirsuta** L.† Native. Common N. and S.
- Cardamine flexuosa** With.† Native. N.—Broughton Wood; Rev. W. Fowler, 1883. Scotton Common! (F.A.L.) 1893. S.—Grantham, 1879; Mr. E. M. Browne. *Herb. Brit. Mus.*
- CARDAMINE IMPATIENS* L. A mistake. 'Mr. H. W. Kew recorded this plant for Mablethorpe accidentally in the *Naturalists' World*, 1885, p. 137. He has since told me he intended *C. hirsuta*.' Mr. J. Burtt Davy.
- Alyssum calycinum** L.† An alien. N.—3.† S.—Doddington,† 1862; Rev. R. E. G. Cole.
- DRABA MURALIS* L. A Thompsonian record; no doubt a mistake.
- Erophila vulgaris** DC.† Native. Common N. and S.
- Erophila præcox** Reichb. Native? N.—Walesby; Mr. F. A. Lees, B.R.C., 1878. *Herb. Brit. Mus.*
- Cochlearia officinalis** L. Native. Recorded since Gerard's time, 1597, for the sea-shore N. and S. of the mouth of River Witham. N.—4. S.—6. These specimens are all *C. littoralis* H. C. Wats., I believe. *Herb. Brit. Mus.*
- Cochlearia anglica** L.† Native. N.—4. Leverton†, 4, 1894; Rev. W. W. Mason. S.—3. *Brit. Mus. Herb.*; Salt Herb. Sheffield, and Dr. Burgess' *Paintings*, and Miss Lane-Claypon's *Paintings*.
- Cochlearia armoracia** L.† A garden escape. N.—4. S.—1.

Hesperis matronalis L. An escape, or casual. **S.**—Little Ponton, 1890, Mr. H. Fisher; Baston, 1837, Browning in Dodsworth. Fisher Herb.

Sisymbrium Thaliana Hook. A rare native. **N.**—5. **S.**—Near Grantham, 1880, Mr. E. M. Browne. Herb. Brit. Mus.

Sisymbrium officinale Scop.† Native. Common **N.** and **S.**

Sisymbrium Sophia L.† Native. Common in **N.** For **S.**—Boston, 1837, Rev. J. Dodsworth, is my only record.

Sisymbrium Alliaria Scop.† Native. Common **N.** and **S.**

Erysimum cheiranthoides L.† A colonist? **N.**—10. **S.**—3.

Camelina sativa Crantz. An escape or casual. **N.**—Warping-drain side, near Ravensfleet; Miller in Anderson, 1847. **S.**—Spalding, 1785; in Sir Joseph Banks' Herb. Thurlby, 1837?; Browning in Dodsworth. Nocton, 1814; Miss Stovin. This sp. is in the Hailstone Herb., York Museum. It is labelled 'Nocton, Derbyshire;' but there is no such place in that county, and we know Miss Stovin was collecting round Lincoln for Hailstone.

Brassica Napus L.† The Rape occurs as an escape from cultivation in fields and hedges constantly. But I never remember noting seedlings.

BRASSICA RUTABAGA DC. Same as the above. This is the Swede of our fields.

Brassica Rapa L.† An escape from cultivation. **N.**—I have four localities and two specimens. But they require further study; there are so many varieties now of the Rape, Swede, and Turnip, and the nomenclature of the latter, to say the least, is confusing without type specimens. I have followed the 3rd ed. of *Eng. Bot.*

Brassica nigra Koch.† Native? but rare. **N.** and **S.** in fields and by ditch sides in the fen districts. **N.**—2. **S.**—2.

Brassica sinapis Visiani.† Native. Common **N.** and **S.**

Brassica alba Boiss.† A colonist? and rare. **N.**—Near Stainton-le-Vale†, etc., 1878; Mr. F. A. Lees. **S.**—Waste ground at Deeping. Mr. W. H. Beeby, *Journ. Bot.*, 1884, p. 18. Pishey Thompson has the following as a foot-note to this plant:—'It very frequently occurs when a ditch is cleaned out in this district (i.e., the south-east corner of **N.**), and the excavated soil is cast on the bank, that it will be covered in the succeeding season with a crop of *White Mustard*, although that plant had not appeared in the locality during many preceding years, unless under similar circumstances.'

- Diploaxis muralis** DC.† Native. **N.**—Belleau†, 8, 1884; Miss Mackinder (Ar. B.). Barton-on-Humber†, 10, 1893; Miss K. G. Firbank. In Grantham Coll., unlocalized, circâ 1850. Near Grimsby, 9, 1885; Mr. L. Gibbs. **S.**—No record.
- Capsella Bursa-pastoris** Mœnch.† Native. Common **N.** and **S.**
- Senebiera didyma** Pers. Alien. **N.**—Ferriby Sluice; Rev. W. Fowler, B.R.C., 1878. Herb. Brit. Mus.
- Senebiera coronopus** Poir.† Native. Fairly common **N.** and **S.**
- Lepidium campestre** R.Br.† Native. **N.**—5†. **S.**—4.
- Lepidium Smithii** Hook.† Native. **N.**—Winterton; Rev. W. Fowler, B.R.C., 1875. Woodhall†, 8, 1893 (W.F.) **S.**—Witham-on-the-Hill,† 1840; Rev. Joseph Dodsworth (Ar. B.).
- Lepidium Draba** L.† An alien casual. **N.**—Near Horncastle, 8, 1893; Rev. W. Fowler.
- Thlaspi arvense** L.† Native; but local. **N.**—8. **S.**—3. **N.**—Cadney. ‘It was brought into this parish about twelve years ago among seed wheat, and distributed over the Carrs from this one centre by a very unusually high wind’; Mr. Job Richardson. It has received the local name of ‘Muzzle-Jimp.’ It is a troublesome weed, and in some cases has to be plucked up by manual labour. It is said to irritate and inflame the skin of the hands of the gatherer, much in the same way as *Hyoscyamus niger* L. does.
- THLASPI PERFOLIATUM* L. In the Thompsonian *List*. A mistake, or casual.
- Teesdalia nudicaulis** R. Br.† Native. **N.**—7.† **S.**—3†.
- CRAMBE MARITIMA* L. ‘Abundant on the sandhills of the Lincolnshire coast’; Sir J. Banks, 1775? See W. Withering’s *Brit. Plants*, 1776, and Turner and Dillwyn’s *Bot. Guide*, 1805. The Banks Herb. must be sought for a specimen. H. C. Watson has the following note, *Top. Bot.*, 1883:—‘This plant apparently is decreasing on our coasts; several of its localities resting only on old records.’
- Cakile maritima** Scop.† Native. **N.**—9. **S.**—No record.
- Raphanus Raphanistrum** L.† A colonist? **N.**—Woodhall;† 11-7-1891, Miss Mackinder. Hatton†, 7-1893, Mr. W. Higginbottom. Southrey, 27-7-'90, *Hatton Club Register*. Mr. F. A. Lees. adds **S.** to his *List*. H. C. Watson implies the same.
- Bunias orientalis** L.† An alien. **N.**—Kirton-in-Lindsey, 18-7-'93. Near the Flour Mill by the Railway Station with other aliens!

RESEDACEÆ.

Reseda lutea L.† Native. Common **N.** and **S.**

Reseda Luteola L.† Native. Common in **N.** Apparently not so common in **S.**

CISTINEÆ.

Helianthemum chamæcistus Mill.† Native. **N.**—10. **S.**—6.

VIOLARIEÆ.

Viola palustris L.† Native. **N.**—5. Herb. Brit. Mus. **S.**—4.†
Dying out slowly, I fear.

Viola odorata L.† Native. Too common and generally distributed to be regarded as planted, both **N.** and **S.**

VAR. flore albo.† Native. **N.**—5. At Cadney and Howsham it is the commoner form of the two in the field hedge-banks away from gardens. The form with a white flower and purple spur—a colour hybrid—is also fairly common.

Viola hirta L.† Native. **N.**—11. **S.**—Bourn; Dodsworth, *Note-book*; H. C. Watson (!) and Bloxam, *MS.*

Viola sylvatica Fr.† Native. **N.**—11.† **S.**—3†.

Viola Reichenbachiana Bor. Native. **N.**—5. **S.**—Bourn Wood; Rev. W. Fowler, B.R.C., 1879. All these specimens have been through Mr. F. A. Lees' hands, and are now in the Herb. Brit. Mus.

VAR. flore albo.† Native. **S.**—Bourn Wood; Rev. Joseph Dodsworth. He calls it *V. canina* with a white flower; but, though a poor specimen, it has the characteristics of *V. Reichenbachiana*, with the exception of the colour.

VIOLA CANINA L. Of my *Locality Register* is an aggregate for species 166-172 of the 8th ed. of *The London Catalogue*, taken from printed books and manuscript lists, and not yet verified.

Viola flavicornis Sm.† Native. **N.**—5.† **S.**—Boultham; H. C. Watson, in *Bot. Gaz.*, vol. iii., pp. 138-140.

VIOLA LACTEA Sm. Mr. James Britten in White's *Lincolnshire*, in the 1872 and 1882 eds. What is the authority or parish? **S.**—Bourn Wood; Dodsworth *MS.*; but I fear his plant was the white-flowered or some other form of *V. Reichenbachiana* Bor.

Viola persicæfolia Roth.† Native. **S.**—Branston Fent† 7, 1864; Mr. G. W. Burtt. Near Skellingthorpe Ferry,† 1893; Miss Rosa J. Owston. **S.**—3 in all. **N.**—No record yet. But either this or the last grows on Manton Common, or did in 1890; but though I have hunted for it, I have never been lucky

enough to find the spot. My sister, who saw a specimen, took it without doubt to be *V. lactea* Sm.—and I understand Mr. Richard Hutchinson, its finder, took it on the heath and not in the bog; which would almost settle the question if I did not *depend wholly* in this catalogue on specimens.

Viola tricolor L.† Native. Aggregate common enough. *V. eu-tricolor* Syme. **N.**—6†. **S.**—Doddington; † Rev. R. E. G. Cole, 12-6-'56. Metheringham, † 1-7-'92. This is a most curious specimen, taken in a cornfield by Mr. J. Burt Davy, a hybrid apparently with a garden Pansy. It was not in the neighbourhood of a house where it grew. I once saw a similar variety at Bottesford in **N.**, but as it was near a garden I did not take it.

Viola arvensis Murr.† Native. Common in **N.**, and I have no doubt as common in **S.**, but I have no proof yet.

POLYGALEÆ.

Polygala vulgaris L.† Native. Common **N.** and **S.** Flowers white, pink, and blue.

Polygala depressa Wend.† Native. **N.**—Linwood Warren, 6-79; Mr. F. A. Lees (?) in Mr. J. Saunders' Herb. Santon; Rev. W. Fowler, B.R.C., 1877. **S.**—Doddington; † Rev. R. E. G. Cole, 29-5-1859 (Ar. B.).

CARYOPHYLLÆ.

DIANTHUS GLAUCUS L. Native, if a *Dianthus* were ever with us. **S.**—Lincoln Heath. T. Martyn's *Plantæ Cantabrigienses*, 1763, and perhaps from another source (?) in Richard Gough's edition of William Camden's *Britannia*, 1789. Mr. F. A. Lees' *Outline Flora* says—'*D. deltoides* L. meant;' this must have been the species.

DIANTHUS CÆSIUS Sm. Turner and Dillwyn's *Botanist's Guide*, 1805. Mr. F. A. Lees says rightly a 'misreference.'

Saponaria Vaccaria L.† Casual. **N.**—Brigg! by railway embankment, 1893 (F. A. L.).

Saponaria officinalis L.†. A garden escape and casual. **N.**—10. **VAR. flore pleno.** **N.**—Tattershell, 1893; Rev. F. S. Alston! Broughton, 1893; Rev. H. C. Brewster!

Silene cucubalus Wibel. Native. Common **N.** and **S.**

Silene maritima With. Native. **N.**—Cleethorpes; collector unknown; this specimen is in the Simpson Coll. Mr. F. A. Lees found it there again in 1873, Herb. Brit. Mus. Mr. J. Jarvis Rainey reports it from Skegness, but I have seen no specimen.

Silene anglica L.† Native. **N.**—2. Herb. Brit. Mus. and Banks' Herb. **S.**—3.† Fisher Herb. and Stow Herb.

Silene quinquevulnera L.† Native? or alien. **N.**—The Cty. Herb. sp. 'grew in a rough sandy field, in a part which has now been converted into an outlying portion of the garden of the Victoria Hotel at Woodhall Spa. I gathered it about twelve years ago (i.e., circâ 1880). Some fifty or more years ago it was not uncommon here'; Rev. J. C. Walter. Woodhall Spa is full of escapes and casuals now, but there is no proof that it was fifty years ago; these colonists increase, but *S. quinquevulnera* L. has steadily decreased, Mr. Walter says. It has now reached the vanishing point, if it has not already gone. Foreign seed, for farming purposes, whether cereals, grass, or clover, were unknown in this part of England fifty years ago; with the latter it has been generally introduced into its other known localities in this county. Can Woodhall Spa be an exception to the rule? Mr. Arthur Bennett, who kindly verified the only sp. known to exist—a very poor one—pointed out to me that it might possibly be a true native.

Silene noctiflora L.† Native. Common **N.** and **S.**

SILENE DICHOTOMA Ehrh. Alien casual. **N.**—Mr. John Lowe, *Science Gossip*, Vol. i., p. 258.

Lychnis alba Mill.† Native. Common **N.** and **S.**

Lychnis diurna Sibth.† Native. Fairly common **N.** and **S.**

Lychnis Flos-cuculi L.† Native. Common **N.** and **S.**

VAR. FLORE ALBO. **N.**—West Ashby; John Ward's *List* in George Weir's *Horncastle*, 1820.

Lychnis Githago Lam.† Native. Common **N.** and **S.**

CERASTIUM TETRANDRUM Curt. Native. **N.**—Mablethorpe, 1876; Mr. F. A. Lees. Also in Mr. James Britten's *List*, 1872. For what parish?

Cerastium semidecandrum L.† Native. **N.**—Cleethorpes; Mr. F. A. Lees. The *Cty. Herb. sp.* says:—'Lincolnshire, 1856, Rev. W. Fowler.' H. C. Watson '!'. **S.**—H. C. Watson, 'Bloxam sp.'

Cerastium glomeratum Thuill.† Native. **N.**—6†. **S.**—Bourn, 1837; Rev. J. Dodsworth, *MS.*

Cerastium triviale Link.† Native. **N.**—Common. **S.**—No doubt the same, but I have no proof.

CERASTIUM ALPINUM L. **S.**—'On the bank on the left hand of the road leading from the bowling-green at Grantham to Man-

thorpe.' Richard Gough, 1789. This plant, a sp. of which I have not seen, is said to grow at Belton by Manthorpe still. What can it be?

Cerastium arvense L.† Native. Common **N.** and **S.**

Stellaria aquatica Scop.† Native. **N.**—4. **S.**—7.

Stellaria nemorum L. Native? **N.**—Broughton Wood; Rev. W. Fowler, B.R.C., 1875. Herb. Brit. Mus.

Stellaria media Cyr.† Native. Common **N.** and **S.**

VAR. Boræana Jord.† Native. **N.**—Frodingham Common, B.R.C., 1877, Herb. Brit. Mus. Mablethorpe†, 12-6-'93 (F.A.L.).

VAR. neglecta Weihe.† Native. **N.**—5. Herb. Brit. Mus.

Stellaria Holostea L.† Native. Common **N.** and **S.**

Stellaria palustris Ehrh.† Native. **N.**—10. **S.**—6.

VAR. angustifolius Maisson.† Native. **N.**—Scotton Common! 1892-93. Mr. Arthur Bennett believes my sps. to be this variety.

Stellaria graminea L.† Native. Common **N.** and **S.**

Stellaria uliginosa Murr.† Native. **N.**—5. **S.**—Grantham, bog near; Mr. E. M. Browne, B.R.C., 1879. Herb. Brit. Mus.

Arenaria tenuifolia L. Native? **S.**—Swinderby Station, Rev. W. Fowler, B.R.C., 1877. H. C. Watson, 'Bloxam sp.' Herb. Brit. Mus.

Arenaria trinervia L.† Native. **N.**—8.† **S.**—Nocton, 6-1846, Dr. B. Carrington. Herb. Brit. Mus.

Arenaria serpyllifolia L.† Native. **N.**—10. **S.**—I have not a sp. or note of a locality, but H. C. Watson and Mr. F. A. Lees both record it.

Arenaria peploides L.† Native. **N.**—7.† **S.**—I have no sp. but H. C. Watson and Mr. F. A. Lees both record it.

BUFFONIA TENUIFOLIA Sm. This plant was first recorded by Leonard Plukenet, in Edward Gibson's translation of William Camden's *Britannia*, 1695; Mr. F. A. Lees' *Outline Flora*. Sir James Smith's *English Flora* says:—'The late Sir Joseph Banks, who often examined the coast near Boston, was persuaded that *Bupleurum tenuissimum* L. had been mistaken for *Buffonia*. Yet Plukenet certainly knew the latter perfectly, and the original sp. in Brit. Mus. Herb. is right.'

Sagina maritima Don. Native. **N.**—3. Herb. Brit. Mus.

Sagina apetala L.† Native. **N.**—Spilsby, 6-'91, Dr. Burgess' *Paintings*. **S.**—Doddington†, 15-6-'56, Rev. R. E. G. Cole. Witham; Rev. W. Fowler, B.R.C., 1878. Herb. Brit. Mus.

Sagina ciliata Fr.† Native. N.—Wrawby Warren and Rasen; Mr. F. A. Lees, B.R.C., 1877. Herb. Brit. Mus.

Sagina procumbens L.† Native. N.—12. S.—Bourn, Rev. J. Dodsworth, is the only record I have. It is in H. C. Watson.

Sagina nodosa E. Mey. Native. N.—10†. S.—4. Dodding-
ton†, 7, 1845, Rev. R. E. G. Cole. This sp. has remarkably
elongated internodes—an inch and an eighth to an inch and a
quarter long. ‘Such as I have not seen hitherto’ :—Mr. Arthur
Bennett. Bourn†, 1836, Rev. J. Dodsworth. This sp. was
‘found growing on the north side of the tower of Bourn Church
above the leads.’ J.D.

VAR. **maritima** F. A. Lees. Native. N.—Mr. Hardy, 1880, Herb.
Brit. Mus. Mr. F. A. Lees’ *Outline Flora* (!) I have not seen
this sp., or a description of the variety.

Spergula arvensis L.† Native. N.—11. S.—5.

VAR. **vulgaris** Boenn.† Native. N.—3 (F.A.L.).

VAR. **sativa** Boenn.† Native. N.—1 (F.A.L.). S.—1 (Ar. B.).

Lepigonum rubrum Fr.† Native. N.—6†. S.—4†.

Lepigonum salinum Fr. Native. N.—5. Alford, 1890? Mr.
J. Burt Davy. Occurring on a wall facing the sea, six miles
from the shore (F.A.L.) S.—Wash side, Rev. W. Fowler,
B.R.C., 1881-2. H. C. Watson ‘!’ ‘Butler sp.’ Herb. Brit.
Mus.

VAR. **neglecta** Hindb.† Native. N.—3.† S.—2.

Lepigonum marginatum Koch.† Native. N.—5.† S.—3.†

PORTULACEÆ.

Claytonia perfoliata Donn. Alien. N.—Hundleby†; 4-1892,
Dr. Burgess’ *Paintings*. Sausthorpe, 1893, Mr. J. Jarvis
Rainey. S.—Harlsholmet†, 23-5-’88, Mrs. M. A. Mewman
and Mr. J. S. Sneath.

Montia fontana L.† Native. N.—3. S.—Doddington†,
14-6-’56, Rev. R. E. G. Cole.

HYPERICINEÆ.

HYPERICUM ANDROSÆMUM L. The only record for this species
for the whole county is in Mr. John Ward’s original *Plant-list*
in George Weir’s *Horncastle*, 1820. His locality is Tattershall,
in N. It is not with us now. May not he have mistaken an
escaped *H. elatum* Ait.?

Hypericum elatum Ait.† A garden escape. N.—Woodhall,
8-1884, Miss Mackinder (F.A.L.). Only just extinct?

BIBLIOGRAPHY:

Papers and Records published with respect to the Natural History and Physical Features of the North of England.

FRESH-WATER FISHES, 1889-1893.

THE present instalment has been compiled and edited by

W. DENISON ROEBUCK, F.L.S.

Previous instalments of the Bibliography of Fishes (both freshwater and marine) have appeared as follows:—

For 1884,	in 'Naturalist,'	June 1885,	pp. 253-7.
„ 1885,	„	Aug. 1886,	pp. 242-4.
„ 1886-88,	„	Jan. 1891,	pp. 27-37.

The records for marine and fresh-water fishes have hitherto been given together, but will henceforth be separated, and the present instalment includes notices of records of fresh-water fishes for five years. Much of what is written does not fall within the domain of science, but that of sport, although it is often difficult to say what should be included or omitted. The broad principle is, however, to exclude mere angling notes, but to take note of everything that may throw light on the fish-fauna or the natural history of fish in the locality to which the note refers.

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 and 54, Lincoln South and North; 56, Notts.; 57, Derby; 58, Cheshire; 59 and 60, Lancashire South and West; 61, 62, 63, 64 and 65, York South East, North East, South West, Mid West, and North W.; 66, Durham; 67 and 68, Northumberland South and Cheviotland; 69, Westmorland with Furness and Cartmel; 70, Cumberland; and 71, Isle of Man; with their adjoining seas.

ANON. [not signed].

Linc. S.

Black Bass [*Huro nigricans*] in **English Rivers** [i.e., the Welland, introduced by the Stamford Angling Society]. Land and Water, Feb. 27th, 1886, p. 197.

ANON. [not signed].

Linc. N.

A fine Trent Salmon [(*Salmo salar*) netted in one of the Gate Burton shots; weight, 36 lbs.]. Land and Water, Aug. 13th, 1887, p. 92.

May 1894.

ANON. [not signed]. Cumberland, Westmorland, Furness, Cheviotland,
Lanc. S., Notts, Derbyshire.

A Rare Book [Mrs. Bowdich's 'Fresh Water Fishes of Great Britain' (1828); the rare Schelly (*Coregonus clupeioides*) from Ullswater was painted on its banks, the Bull Trout (*Salmo trutta*) on the banks of Tweed, Chub (*Leuciscus cephalus*) called Skelly in Cumberland; the Azurine (*Leuciscus caeruleus*) was figured from Knowsley, the Graining (*Leuciscus lancastriensis*) from Warrington, the Char (*Salmo willughbii*) from Coniston Lake, the Loach (*Cobitis barbatula*) from the Trent near Nottingham, the Grayling (*Thymallus thymallus*) from the Derbyshire Derwent; list of libraries given in which the book exists]. Field, Dec. 31st, 1887, p. 985.

ANON. [signed 'Red Spinner']. Northumberland S. and Cheviotland.

[Salmo] Fontinalis in the Coquet [noting the capture of one 15 in. long and nearly two lbs. in weight, near Paperhaugh Bridge]. Field, March 23rd, 1889, p. 401.

ANON. [signed 'March Brown']. Northumberland S. and Cheviotland.

[Salmo] Fontinalis in the Coquet [stating that countless numbers were turned down eight or nine years ago; and several taken each season for last three or four years]. Field, April 6th, 1889, p. 483.

ANON. [newspaper paragraph]. Cheviotland.

An Aged Trout [(*Salmo fario*); one found on emptying Corporation Reservoir at Berwick, which had been turned in 26 years previous; weight 8½ lbs., length, 2 ft. 4 in., girth, 1 ft. 2¾ in.]. Field, June 8th, 1889, p. 821.

ANON. [signed 'Tweedside']. Cheviotland.

A large Yellow Trout [(*Salmo fario*), 26 years old, 8½ lbs. weight, found in Berwick Reservoir; being preserved for Berwick Museum]. Field, June 15th, 1889, p. 865.

ANON. [not signed]. Cheviotland.

Capture of a Twenty-year-old Common Trout [(*Salmo fario*), in the Berwick Corporation Reservoir, at the New Farm; weight, 8½ lbs., length, 28 inches, girth, 13¾ inches; is being preserved in Berwick Museum]. Land and Water, Aug. 17th, 1889, p. 211.

ANON. [signed 'Old Log']. Yorkshire generally.

Devonshire v. Yorkshire [compared, from a fishing point of view, to the advantage of Yorkshire; the Perch (*Perca fluviatilis*), and Pike (*Esox lucius*), of Hornsea Mere, and the Salmon (*Salmo salar*), Trout (*S. fario*), and Grayling (*Thymallus thymallus*), of the Yorkshire streams generally, referred to]. Field, Jan. 4th, 1890, pp. 11-12.

ANON. [signed 'G.']. York N.E.

Spring in North-East Yorkshire. By a Would-be Angler [gossipy article respecting angling for *Salmo jario*]. N. H. J., June 15th, 1890, pp. 81-82.

ANON. [signed 'Blue Dun']. York S.E.

A Northern Chalk Stream [the Driffield stream—'the Itchen of the north'—full of *Salmo fario*, one weighing 5¼ lb. having been caught just below Foston Mill Dam, and the adjoining canal has yielded fish between 10 lb. and 16 lb.]. Field, Oct. 4th, 1890, p. 516.

ANON. [signed 'Rawdon Lee']. Westmorland.

Late Run of Sea Trout [(*Salmo trutta*) up the Kent; four fresh-run fish on Nov. 10th, 1889, weighing 12 to 18 oz. each]. Field, Oct. 4th, 1890, p. 517.

- ANON. [signed 'Rawdon Lee']. **Westmorland and Furness.**
Windermere Salmon [(*Salmo salar*); food discussed, with unfavourable criticism of an allegation as to their feeding on Char (*Salmo willughbii*) in deep water]. Field, Nov. 1st, 1890, p. 650.
- ANON. [newspaper paragraph]. **Durham, York N.E.**
Extraordinary Scene at Dinsdale Dam [detailing the ineffectual attempts of considerable numbers of *Salmo salar* to ascend the so-called fish-pass]. Field, Nov. 29th, 1890, p. 793.
- ANON. [signed 'J. B.']. **Yorkshire.**
North and South Country Grayling [(*Thymallus thymallus*); account of T. E. Pritt's opinion of the difference in the dorsal-fin between a Yorkshire and a Berkshire example]. Field, April 25th, 1891, p. 617.
- ANON. [signed 'Red Spinner']. **York Mid W. and S.W.**
River Preservation and Pollution [noting that some very pretty fishing for *Salmo fario* in Upper Airedale is still to be found, and that the progeny of a few *Thymallus* introduced from the Wharfe fifteen years ago are multiplying; that *Perca fluviatilis* is growing scarcer every year, while *Anguilla*, *Tinca* and *Leuciscus vulgaris* are practically extinct above Stock Bridge; that *Salmo salar* no longer faces the pollution in the Ouse at the Aire confluence]. Field, Sept. 20th, 1891, p. 449.
- ANON. [signed 'Pelagius']. **Notts.**
On the River Greet [, Notts; described as a stream for Trout (*Salmo fario*)]. Field, Sept. 26th, 1891, p. 492.
- ANON. [signed 'J. B.' and 'Ed.'].
The Welland Graining [(*Leuciscus lancastricensis*?) the one reported as caught on Sep. 10th, above Tinwell village (S. B. Sharpe, Field, Sep. 26th, 1891, p. 492), is much doubted and specific identification called for]. Field, Oct. 3rd, 1891, p. 526.
- ANON. [signed 'Red Spinner']. **York N.E.**
The River Costa [as an angling stream; possesses *Esox lucius*, *Salmo fario*, and *Thymallus* (which thrives)]. Field, Oct. 10th, 1891, p. 547.
- ANON. [signed 'Red Spinner']. **York N.E.**
The Ryedale District [its streams and their fish; *Salmo fario* and *Thymallus*]. Field, Nov. 21st, 1891, pp. 773-774.
- ANON. [signed 'D. P.']. **Durham, Northumberland S.**
The Tyne as a Salmon River [described as not unsatisfactory, and mention made of good catches of *Salmo salar*]. Field, Nov. 21st, 1891, p. 775.
- ANON. [not signed]. **Isle of Man.**
Excursion to Ballaugh [June 7th, 1888; *Salmo fario* of large size noted]. Back Trans. Isle of Man N.H.S., p. 150; publ. with Yn Lioar Manninagh, No. 10, Jan.-April 1892.
- ANON. [not signed]. **York N.E.**
[Notes by] Ayton [scholars near Egton Bridge; stranded *Salmo salar* seen twice, May 27th, 1892]. N.H.J., June 15th, 1892, p. 77.
- ANON. [signed 'C.']. **Notts.**
Spined Loach [(*Cobitis tania*); said to have been taken in the Trent near Nottingham]. Field, Dec. 24th, 1892, p. 974.
- ANON. [not signed]. **Solway Estuary (Scottish side).**
A Sturgeon [*Acipenser sturio*] caught in the Solway [near Glencaple, at the mouth of the river Nith, 'last week'; weight, etc., given]. Field, May 6th, 1893, p. 654.

- ANON. [signed 'C.S.']. York N.E.
Large Minnow [(*Leuciscus phoxinus*), nearly 4½ in. long, taken in Scalby Beck near Scarborough, by W. J. Clarke]. *Field*, July 8th, 1893, p. 63.
- ANON. [signed 'W.S.']. Notts.
A Pound Dace [(*Leuciscus vulgaris*), 13½ inches long, 16½ oz., taken from one of the Newstead lakes]. *Field*, Sept. 23rd, 1893, p. 468.
- H. COOPER ABBS. York N.W.
[Presidential] Address to the . . . Tyneside Naturalists' Field Club . . . May 24th, 1886 [noting *Thymallus* and *Salmo fario* caught in the Ure near Askrigg, June 26th, 1885]. *Nat. Hist. Trans. Northumb. Durh. and Newc.*, vol. 8, part 3, 1889, p. 338.
- ALFRED ALLISON. Cheviotland, Northumberland S.
By Coquetside [with an account of the fish; *Salmo fario*, *S. salar*, *S. eriox*, and *Anguilla*]. *Field*, Jan. 26th, 1889, p. 118.
- WILLIAM ANDREWS. York S.E.
Curiosities of the Church. Studies of Curious Customs, Services and Records. London: Methuen & Co., 1890, 202 pp. [not seen, but a reviewer in *Yorkshire Bibliographer* (J. H. Turner), No. 20, July 1890, pp. 300-304, states that it includes various notes as to Fish in Lent, Earl Percy's fish-bill for Leconfield Castle about 1430, etc.].
- WILLIAM E. A. AXON. Lancashire S.
A Lancashire Naturalist—Thomas Garnett [with notices of *Salmo salar*, the Ombre Chevalier (French Char) in Rivington Reservoir (introduced), *Petromyzon*, *Leuciscus phoxinus*, *Anguilla*]. *Sci. Goss.*, Aug. 1892, pp. 169-170.
- JAMES BACKHOUSE, JUN. York S.E.
The Yorkshire Naturalists' Union at Kirkham Abbey and Acklam Brow [on Sep. 4th, 1889; *Esox* noted]. *Nat.*, Nov. 1889, p. 341.
- C. R. BEAUMONT. Lanc. S.
A Ramble Round Daisy Nook [near Oldham: *Esox*, *Perca*, and *Leuciscus vulgaris* noted]. *Trans. Rochdale Lit. and Sci. Soc.*, vol. ii., for 1889-90, publ. 1890, p. 71.
- GEORGE BENTON. Derbyshire.
Large Derbyshire Trout [(*Salmo fario*) taken from the Cressbrook between Buxton and Bakewell, July 8th, 1893; 7½ lb. weight, 23 inches length, 14½ in. girth]. *Field*, July 15th, 1893, p. 103.
- MONTAGU BROWNE. Notts.
Notes on the Vertebrate Animals of Leicestershire [with a record of a small specimen of *Acipenser sturio* being taken some few years ago in the little River Smite (Notts.) near to Belvoir]. *Zool.*, Feb. 1887, p. 59.
- H. CAFFERATA. Linc. N.
Lincolnshire Waters. The Ancholme [contains Bream (*Abramis brama*), Roach (*Leuciscus rutilus*), and Carp Bream (*Abramis brama*, var.)]. *Land and Water*, Aug. 17th, 1889, p. 215.
- [THOMAS] CARNELL. York S.W.
[Chub (*Leuciscus cephalus*) and Perch (*Perca fluviatilis*) in a pond at Salterhebble (introduced) which yields *Volvox*]. *Nat.*, June 1891, p. 168.
- ABEL CHAPMAN. Cheviotland, Northumberland S.
Some Notes on the Game-Fish [of the Borders; in his book on 'Bird-Life of the Border,' pp. 32-34; the Salmon (*Salmo salar*) of Redewater and Coquet, etc.; Bull Trout, Cod, Coal-Say, Rock-Codling, Poodlings, and Lythe referred to as enemies of Smolts].

JAMES CLEPHAN.

Northumberland S., Westmorland.

Apprentices and Fish-Diet [near Newcastle ; there is no documentary evidence to support the old legend of apprentices stipulating for limitation of their diet of Salmon (*Salmo salar*) ; nor is there at Kendal]. Westm. Note Book, vol. i. No. 4, Dec. 1888, pp. 188-189.

York Mid W.

W. EAGLE CLARKE, W. DENISON ROEBUCK, and WILLIAM STOREY.

Upper Nidderdale and its Fauna. . . . **Fishes** [*Cottus gobio*, *Leuciscus phoxinus*, *Nemachilus barbatulus*, *Salmo fario*, *Thymallus thymallus*, *Anguilla vulgaris*, and *Petromyzon fluviatilis* enumerated with full annotation]. Nat., July 1886, p. 205.

SIR WILLIAM CROSSMAN.

Cheviotland.

A Sea Trout [*Salmo trutta*]'s Meal [one 4½ lbs. taken at Goswick Fishery, contained 25 Sand Eels (presumably *Ammodytes tobianus*) from 4 to 5 inches long]. Field, April 29th, 1893, p. 626.

SIR WILLIAM CROSSMAN.

Cheviotland.

[**Tabular**] **Return of Salmon, Grilse and Sea Trout found dead and dying** in the Tweed and its tributaries, taken out and buried 1880 to 1889 [and giving a total of 54,422 Salmon (*Salmo salar*), 8,189 Grilse (*Salmo salar* jun.) and 12,454 Sea Trout (*Salmo trutta*)]. Proc. Berw. Nat. Club for 1889, vol. 12, No. 3 (pub. 1890), pp. 533-534.

G. MORLAND DAY.

Derbyshire, Lincolnshire.

Trout and Grayling [with account of a fish-hatchery at Milton, near Repton, notice of the range of *Salmo fario* in Derbyshire, and casual mention of *Thymallus* in Lincolnshire]. Trans. Burton-on-Trent N.H.S., vol. 2, 1892, pp. 58-69.

W. B. FELL.

Westmorland and Furness.

Eel [*Anguilla vulgaris*] **Swallowing Bird** [one, weighing nearly 2 lbs., caught in the Leven, which runs from Windermere to Morecambe Bay, and which abounds in eels ; the bird, sent to Editor, was too far digested for identification]. Field, July 5th, 1890, p. 9.

MISS C. FISHWICK.

Lanc. W. and S.

A few Lancashire Peculiarities, as noted by Drayton [in the Polyolbion, 1622 ; subterranean fish at Symonds near Formby ; and the Salmon (*Salmo salar*) of the Lune mentioned]. Trans. Rochdale Lit. & Sci. Soc., vol. i. for 1878-1888, publ. 1888, pp. 59-62.

RILEY FORTUNE.

York Mid W.

Hooded Crows attacking and devouring Salmon [(*Salmo salar*) at Mickley, in the Yore, Dec. 1888 ; details given]. Nat., Aug. 1889, p. 244.

RILEY FORTUNE.

York N.W.

[**Fishes observed by**] the **Yorkshire Naturalists' Union at Leckby Carr** [on May 18th, 1891 ; *Perca fluviatilis*, *Acerina*, *Gasterosteus aculeatus*, *G. pungitius*, *Gobio*, *Leuciscus rutilus*, *L. cephalus* (with one eye, a 3½ lb. fish), *L. phoxinus*, *Esox* and *Thymallus* noted]. Nat., Aug. 1891, pp. 237-238.

RILEY FORTUNE.

York Mid W.

[**Fishes observed by**] the **Yorkshire Naturalists' Union at Grassington** [on June 20th, 1891 ; *Cottus gobio*, *Leuciscus phoxinus*, *Salmo fario* and *Thymallus* noted, the last in large numbers]. Nat., Sept. 1891, pp. 264-265.

RILEY FORTUNE.

York Mid W.

[**Fishes observed by**] the **Yorkshire Naturalists' Union at Horton-in-Ribblesdale** [on May 14th, 1892 ; *Salmo fario* and *Leuciscus phoxinus* noted]. Nat., June 1892, p. 180.

RILEY FORTUNE.

York N.E.

[**Fishes observed by**] the **Yorkshire Naturalists' Union at Coxwold and Byland** [Sep. 1892 ; *Salmo fario*, *Leuciscus phoxinus*, *L. rutilus*, *Cottus gobio*, and *Perca fluviatilis*]. Nat., Nov. 1892, p. 346.

May 1894.

- HARDY, BROS.** Cheviotland, Northumberland S.
Remarkable Trout [(*Salmo fontinalis*) caught twice near Felton and at Pauperhaugh, in the Coquet, in which there is a fair quantity]. Land and Water, March 30th, 1889, p. 404.
- G. E. HASTINGS.** ‘York’?
Biological Notes on Roach (*Leuciscus rutilus*), **Dace** (*L. vulgaris*), **Gudgeon** (*Gobio fluviatilis*), and **Sticklebacks** (*Gasterosteus aculeatus*); all presumably near York]. Nat. Hist. Journ., Nov. 15th, 1889, p. 203.
- G. E. HASTINGS.** Cumberland, Northumberland S.
Toads and Fish at Dinner [giving notes on the behaviour of *Cobitis barbatula*, *Leuciscus phoxinus*, and *L. rutilus* from River Eden at Wetheral, and of *Gasterosteus aculeatus* from Tynemouth]. N. H. J., Mar. 15th, 1890, pp. 24-25.
- R. C. HEDLEY.** Northumberland S.
[The largest Burn Trout (*Salmo fario*) writer has seen killed in Hallington Reservoir weighed 5½ lbs.]. Nat. Hist. Trans. Northumb. Durh. and Newc., vol. x. part 2, 1890, p. 399.
- RICHARD HOWSE.** Cheviotland, Northumberland S., Durham, Cumberland,
York N.W., N.E., S.W. and Mid W.
Catalogue of the Fishes of the Rivers and Coasts of Northumberland and Durham and the Adjacent Sea [giving very full details of the distribution of the fresh-water and marine fishes, not only of the district stated, but also of Yorkshire and Cumberland]. Nat. Hist. Trans. Northumb. Durh. and Newc., vol. x. part 2, 1890, pp. 327-390.
- J. M. JEFFCOTT.** Isle of Man.
Address of the Retiring President [of Isle of Man N.H.S., delivered March 27th, 1890; in the Manx language breac=Trout (*Salmo fario*); braddan=Salmon (*S. salar*); astan=Eel (*Anguilla*)]. Yn Lioar Manninagh, No. 5, April 1890, pp. 153-158.
- CHARLES JONES.** Cheshire.
Large [Golden] Carp [*Carassius auratus*] from the Dee, near Eaton Hall, Chester, 2 ft. 3 in. long, 9 lbs. 13½ oz. weight]. Land and Water, April 5th, 1890, p. 460.
- P. M. C. KERMODE.** Isle of Man.
Address by the Retiring President . . . Delivered . . . March 11th, 1886 [gives titles of papers on the Manx Fauna]. Back Trans. I. of Man N.H.S., i, 72; publ. with Yn Lioar Manninagh, No. 4, October 1889.
- P. M. C. K[ERMODE].** Isle of Man.
Phenological Observations [made in the Isle of Man; with mention of the close time for *Salmo salar* and *S. fario*]. Yn Lioar Manninagh, No. 4, October 1889, p. 103.
- JOHN LEYLAND.** Derbyshire.
The Peak of Derbyshire [;] its scenery and antiquities [with notes on the fishing in Derwent Dale for *Salmo fario* (p. 111), on the Bradford and Lathkill (181 and 192), in the Wye (p. 257); in Bentley Brook for *S. fario* and *Thymallus* (p. 297); and in the Dove for the same two species and *Anguilla* (p. 314)]. London, 1891, 8vo., 340 pages, with map and illustrations.
- R. T. MANSON.** Durham, York N.W. and N.E.
Zig-Zag Ramblings by a Naturalist [round Darlington; *Salmo salar*, *S. fario*, *S. eriox*, *Thymallus*, *Leuciscus rutilus*, *L. cephalus*, *Cyprinus leuciscus*, and *Anguilla* enumerated as found in the Tees (p. 113); at pp. 137-8 is given an enumeration of 20 ‘pisces’ found in the Tees and Skerne, to which is added notes as to the occurrence of *Platessa limanda*, *Trachinus draco*, and *Acipenser sturio* in the Tees but not higher than Dinsdale Fish-locks]. Small 8vo., Darlington, 1884.

- L. C. MIALL. York Mid W.
Malham Tarn [and its fish ; *Salmo fario*, *S. levenensis*, *Perca fluviatilis* ; deformed specimens noted ; the Trout probably introduced by the Monks of Fountains]. Handbook for Leeds and Airedale. Prepared for the use of the British Association, Leeds, 1890. . . . Leeds 1890, pp. 3-4.
- L. C. MIALL. York Mid W.
Natural History of the Aire [repeating old records of *Petromyzon*, *Thymallus*, *Leuciscus phoxinus*, *Perca*, *Anguilla*, *Gobio*, *Salmo salar*, *Gasterosteus*, *Acerina cernua*, *Leuciscus cephalus*, *Salmo fario*, *Esox*, *Cottus gobio*, *Tinca*, *Leuc. vulgaris*, *L. rutilus*, and *Cobitis barbatula*, and a list by J. J. Brigg]. Handbook for Leeds and Airedale. Prepared for the use of the British Association, Leeds, 1890, pp. 22-24.
- J. J. NEALE. York Mid W.
Surface Fishes of the Bristol Channel [with an incidental statement that the Four-spined Stickleback (*Gasterosteus spinulosus*) 'may be found 1,250 feet above sea-level, at Malham Tarn, in Yorkshire, or in the salt-water 1,250 lower]. Trans. Cardiff Nat. Soc., 1889, vol. xxi. part 1 (1890), pp. 13 and 19.
- WM. NELSON. York N.W.
[Fish taken by] the Yorkshire Naturalists' Union at Leckby Carr [on May 18th, 1891 : *Gasterosteus pungitius* and *G. aculeatus* noted]. Nat., Aug. 1891, p. 235.
- JNO. D. PATCHETT. Notts.
Water Rat and Eel [(*Anguilla vulgaris*) on the River Greet near Southwell ; the eel swallowing rat's tail for a worm, and afterwards letting go]. Field, Sep. 12th, 1891, p. 431.
- JNO. PHILIPSON. Cheviotland, Northumberland S., Durham.
Freshwater Fish [discussing Salmon and Freshwater Fisheries in Northumberland and Durham ; with notes as to *Salmo salar* in Tweed and Tyne]. Nat. Hist. Trans. Northumb. Durh. and Newc., vol. x. part 2, 1890, pp. 419-425.
- A. S. ROWNTREE [Sec.]. York N.E. and Mid W.
York, Bootham [*Salmo salar* watched leaping at Linton, May 25th, 1889, by H. J. Morland]. N. H. J., June 15th, 1889, p. 88.
- J. H. SALTER and N. NEAVE. Cheshire.
Manchester Notes [noting Sparlings (*Osmerus eperlanus*) in Rostherne Mere, only in estuaries elsewhere]. N. H. J., April 15th, 1890, p. 56.
- J. H. SAVILE. York S.W.
Voracity of Pike [(*Esox lucius*) at Methley Park near Leeds ; one weighing 4 $\frac{3}{4}$ lb. swallowed another of 2 $\frac{3}{4}$ lb. ; the two so nearly a length that the tail of the swallowed protruded from the swallower's mouth]. Field, Sep. 24th, 1892, p. 489.
- SAML. B. SHARPE. Linc. S.
The Welland "Graining" [one preserved is at the Rising Sun at Stamford, and is neither Chub, Dace, Roach, nor hybrid, and writer maintains it to be a Graining (*Leuciscus lancastricensis*)]. Field, Nov. 28th, 1891, p. 826.
- M. TATE. York N.E.
[Derivation of Pickering ; legend of the Pike (*Esox lucius*) and the Ring in Costa Beck]. Yorkshire : Scenes, Lore and Legends [Leeds, 1888], p. 40.
- F. C. BIRKBECK TERRY. Westmorland and Furness.
Char [of Windermere (*Salmo willughbii*) ; quotations from Camden's 'Britannia' and Francis Holyoke's 'Dictionary,' 1640]. Notes and Queries, Aug. 13th, 1892, p. 124.

- W. BARWELL TURNER. York N.E.
Destruction of Young Trout [*Salmo fario*] in the river Costa [at Pickering; 'brown dust' sent by J. W. Wheldon, which kills the young Trout by clogging the gills, is attributed to ferric oxide, precipitated from the water by gill-action]. Nat., Nov. 1889, p. 324.
- R. USHER. ? Northumberland.
Effect of Thunder on Trout [(*Salmo fario*) in a small moorland burn, presumably in Northumberland; the question discussed]. Zool., Sep. 1890, p. 358.
- EDGAR R. WAITE. York Mid W.
[Fishes observed by] the Yorkshire Naturalists' Union at Harrogate July 13th, 1889; *Perca*, *Gasterosteus*, *Leuciscus phoxinus*, and *Salmo fario* noted in Crimble Beck near Fullwith]. Nat., Aug. 1889, p. 237.
- EDGAR R. WAITE. York S.E.
[Fishes observed by] the Yorkshire Naturalists' Union at Lowthorpe near Driffield [May 26th, 1890; *Salmo fario* and *Leuciscus phoxinus* noted]. Nat., July 1890, p. 206.
- EDGAR R. WAITE. York S.W.
[Fishes observed by] the Yorkshire Naturalists' Union at Bretton Park [June 14th, 1890; *Leuciscus rutilus*, *L. phoxinus*, and *Salmo fario* noted]. Nat., Aug. 1890, p. 225.
- EDGAR R. WAITE. York Mid W.
Vertebrates of the Western Ainsty [with detailed notes on the localities and occurrence of 27 species of Fishes]. Nat., March and April, 1891, pp. 83 and 111-114.
- EDGAR R. WAITE. York Mid W.
[Fishes observed by] the Yorkshire Naturalists' Union at Malham and Gordale [Sept. 11th, 1890; *Salmo fario* and *Cottus gobio*, the latter in Malham Tarn]. Nat., June 1891, p. 174.
- EDGAR R. WAITE. York S.
[Fish observed by] the Yorkshire Naturalists' Union on the Wolds [at York Dale and Sledmere, Aug. 3rd, 1891; *Gasterosteus aculeatus* in a cattle pond]. Nat., Oct. 1891, pp. 301-302.
- EDGAR R. WAITE. York N.E.
[Fish observed by] the Yorkshire Naturalists' Union at Hayburn Wyke [on July 11th; *Salmo fario*]. Nat., Sep. 1891, pp. 286-287.
- EDGAR R. WAITE. York Mid W.
Trout [*Salmo fario*] **Hatching at Knaresborough** [treated of in detail, with statistics]. Nat., May 1892, pp. 147-148.
- R. WHITESIDE. Isle of Man.
How to Improve the Breed of Trout [*Salmo fario*] in the Isle of Man [giving various recommendations]. Yn Lioar Manninagh, No. 6, July 1890, pp. 173-174.
- C. H. B. WOODD. York Mid W.
Vertebrate Fauna of Langstrothdale, Mid West Yorkshire [noting *Salmo fario*, *Cottus gobio*, and *Leuciscus phoxinus* as the fishes of the region]. Nat., May 1891, p. 139.
- A. G. WOODHEAD. York Mid W. and N.E.
[*Salmo salar* observed leaping at the Weir, Linton Locks, Sep. 8th, 1891]. N. H. J., Oct. 15th, 1891, p. 132.

THE CONSTITUENTS OF
THE NORTH LANCASHIRE FLORA, 1597(?) - 1893.

LISTER PETTY,

Ulverston.

SECOND PAPER.

Ranunculus pseudo-reptans (Syme).

As reptans L.

1787. Withering, ed. 2, 572. Stony shore of Coniston Water, J. T. Woodward. Rep. in 1796. Withering, ed. 3, 505. 1801. Withering, ed. 4, 495-6. 1805. Turner and Dillwyn, ii. 369. 1812. Withering, Ed. 5, 618-19. 1830. Withering, ed. 7, 679.

As pseudo-reptans.

1869. J. of B., 137. Rep. Bot. Ex. Club, by Dr. Boswell. Coniston Lake, A. G. More. 1874. J. of B., Miss E. Hodgson. Urswick Tarn. 1885. Baker's Flora, 19. 'Long ago Woodward recorded *R. reptans* from Coniston, but specimens gathered at Coniston by Mr. A. G. More were this variety.' Miss Hodgson, rep. 1887. J. of Bot. 86. On the margin of western shore of Windermere, near the Ferry, Lake Lancashire, July 25, 1885, Charles Bailey.

Ranunculus Lingua L. *R. flammeus major* Ger. C.F.R., 1632.

First reported by Lawson to Ray, April 1688.

1718. Derham, Philos. Lett., 220, Lawson to Ray, 1688. 'In the water and ditches of the moss by Hawkshead, Lancashire.' 1744. Wilson, Synops., 105. Lawson rep. 1763. Martyn, Plant. Cant., 61. Hawkshead. 1805. Turner and Dillwyn, ii., 269. Hawkshead (Martyn). 1843. Jopling, Furness and Cartmel, 257. Mosses and damp places about Furness and Cartmel, Aiton and Wilson. 1848. Ray Corresp., Ray Soc. In Lawson's letter to Ray, 1688, locality rep. 1874. J. of B., Miss E. Hodgson. Urswick Tarn. 1885. Baker's Flora, 19. Lawson, Aiton, Wilson, and Miss Hodgson rep. Esthwaite Water, Rev. W. Wood. 1888. Westm. Note-book, 70. Lawson rep. in Mr. Martindale's 'Early Records.'

Ranunculus auricomus L. Clarke's First Record, 1633.

1843. Jopling, Furness and Cartmel, 257. Old Park Wood, near Park Head, Cartmel, W. Wilson. 1864. Linton, Lake Country, 318. 'Common,' no locality. 1874. J. of B., Miss E. Hodgson. Plumpton Woods, near Ulverston; Colton Beck Wood. 1890. Hankinson's Guide. Included by me in the Grange list; specimens gathered near Flookburgh by Mr. W. Duckworth.

Ranunculus acris L. C.F.R., 1597.

1843. Jopling, Furness and Cartmel, 258. In many pastures, Aiton and Wilson. 1864. Linton, Lake Country, 318. 'Common,' no locality. 1874. J. of B., Miss E. Hodgson. No locality.

Ranunculus repens L. C.F.R., 1597.

1843. Jopling, Furness and Cartmel, 258. In many pastures, Aiton and Wilson. 1864. Linton, Lake Country, 318. 'Common,' no locality. 1874. J. of B., Miss E. Hodgson. No locality. 1885. Baker's Flora, 20. Highest stations in N. Lancashire, streams round Low Water, Coniston Old Man, J. G. Baker.

Ranunculus bulbosus L. C.F.R., 1538.

1864. Linton, Lake Country, 318. 'Common,' no locality. 1874. J. of B., Miss E. Hodgson. No locality.

Ranunculus sardous Crantz. C.F.R., 1663.

R. philonotis (Ehrb.?).

1843. Jopling, Furness and Cartmel, 257. Meadows and wet places near the Duddon, Aiton. 1874. J. of B., as *R. hirsutus* (Curt.), Miss E. Hodgson. Biggar Bank, Walney Island. 1885. Baker's Flora, 20. Aiton and Miss Hodgson rep. In a lane near the Ferry on Walney Island, and in a grassy marsh a little to the south of it, F. A. Lees.

Ranunculus Ficaria L. C.F.R., 1548.

1864. Linton, Lake Country, 318. 'Common,' no locality. 1874. J. of B., Miss E. Hodgson, no locality.

Caltha palustris L. C.F.R., 1548.

1843. Jopling, Furness and Cartmel, 257. Ditches near Ulverston, Bardsea, and Cartmel, Aiton and Wilson. 1864. Linton, Lake Country, 318. 'Common,' no locality. 1874. J. of B., Miss E. Hodgson, no locality. The double form not known, so far as I can learn, in North Lancs. See Merrett's Pinax, 18.

Caltha minor Syme.

1874. J. of B., Miss E. Hodgson. Seathwaite Tarn. Walna Scar.

Trollius europæus L. *Ranunculus globosus* Gerard. C.F.R., 1597.

[1597. Gerard, Herbal., 809. Groweth in most places in Yorkshire and Lancashire, p. 856. 1633. Gerard, by Johnson, 856, repeated, and also in 1636, Gerard by Johnson. 1650. How, Phytologia, 102. Merrett, Pinax, both editions, 1666 and 7, p. 102.] 1796. Withering, ed. iii., 509-10. Road-side near Dale Park in Furness Fells, Atkinson. And repeated in all editions of Withering, 1801 to 1830. 1805. West, Antiq. Furness, 379.

Atkinson rep. 1805. Turner & Dillwyn, Bot. Guide, ii., 369. Side of Coniston Water, Mr. Davey, and Atkinson rep. 1835. Watson, New Bot. Guide. Above repeated, but Davey's ascribed to Bot. Guide. 1842. Evans, Furness and F. Abbey, 24. Rep. Atkinson. 1843. Jopling, Furness and Cartmel, 257. Near Backbarrow and Gateside, Cartmel, Wilson. 1864. Linton, Lake Country, 318. Lake sides generally, but especially fine at Windermere. 1874. J. of B., Miss E. Hodgson, no locality. 1869. Aspland's Guide Within six miles of Grange, A. Mason. 1885. Baker's Flora, 21. Atkinson and Wilson repeated. Colton Beck Wood, Furness Fells, Miss E. Hodgson. 1885. J. of B., 330. Colwith Force, and by stream below the fall, A. W. Bennett.

Helleborus viridis L. C.F.R., 1562.

1874. J. of B., Miss E. Hodgson. Slack Woods near Grange, Miss A. Butler. 1869. Aspland's Guide. Within six miles of Grange, A. Mason. 1885. Baker's Flora, 22. Miss Butler repeated. 1890 and 93. The Grange Guides, on above authority. 1892. Haviland, Distrib. of Disease, 373.

Aquilegia vulgaris L. C.F.R., 1570.

1843. Jopling, Furness and Cartmel, 258. In the woods near Holker and Backbarrow, Wilson. 1864. Linton, Lake Country, 318. 'Common,' no locality. 1874. J. of B., Miss E. Hodgson. Roudsey Woods. Near Dalton-in-Furness. Plumpton Rocks, Ulverston shore, 'White.' 1869. Aspland's Guide. Within six miles of Grange, A. Mason. 1885. Baker's Flora, 22. All Miss Hodgson's localities repeated. Coniston, near the Lake, and in the Ghylls, not plentiful, Miss Beever. 'Hudson mistakes the wild lake plant for *A. alpina*. See Smith, Eng. Bot. t. 29.' 1890. Hankinson's Guide. On authority of the Roudsey Wood Station, at Grange. 1892. Haviland, Distrib. Disease, 373. 1893. Atkinson's Guide, from an unpublished locality at Grange.

Berberis vulgaris L. C.F.R., 1597.

1874. J. of B., Miss E. Hodgson. Between Penny Bridge and Colton Beck Bridge. Doubtfully wild. 1885. Baker's Flora. Miss Hodgson rep.

NOTE.—Miss Hodgson is quite right—*very* doubtfully wild at this station—in fact it seems as if planted there.—L. P.

Berberis Darwinii Hooker (Ic. Plant., 762).

1892. Naturalist, 83. Brick-kiln Lane near Ulverston. The remains of an old hedge. Naturalised alien. W. Duckworth.

Nymphæa lutea Linn. *Nuphar luteum* Sm. C.F.R., 1562.
 1843. Jopling. Furness and Cartmel, 258. Ayside Tarn,
 Wilson. 1864. Linton, Lake Country, 318. 'Common,' no locality.
 1869. Bolton, Geol. Fragments, 121. Urswick Tarn.* 1874.
 J. of B., Miss E. Hodgson. Latterigg Tarn, Woodland, Mrs. Hart
 Jackson. 1885. Baker's Flora, 245. Wilson and Mrs. Jackson
 repeated.

Castalia speciosa Salisb. *Nymphæa alba* L. C.F.R., 1562.
 1843. Jopling, Furness and Cartmel, 258. Urswick Tarn, Aiton.
 Bigland Tarn, Wilson. 1864. Linton, Lake Country, 318. 'Com-
 mon,' no locality. 1869. Bolton, Geol. Fragments, 116. Urswick
 Tarn. 1874. J. of B., Miss E. Hodgson. Urswick Tarn. 1885.
 Baker's Flora, 24. Windermere, Coniston, Esthwaite, Urswick Tarn.
 Bigland Tarn, Wilson.

NOTE.—Not ascertainable now if all these are native stations or
 planted. *Possibly* non-native at Bigland.

Papaver somniferum L.

1885. Baker's Flora, 26. Rubbish in Cart Lane, between Grange
 and Kent's Bank, J. G. Baker.

Papaver Rhœas L. C.F.R., 1562.

1864. Linton, Lake Country, 318. 'Common,' no locality.
 1874. J. of B., Miss E. Hodgson. Fields, Salthouse near Barrow.
 1885. Baker's Flora, 25. Grange-over-Sands. Barrow.

Papaver dubium L. C.F.R., 1686.

1885. Baker's Flora, 25. Grange-over-Sands.

Papaver Lecoqii Lamot. C.F.R., 1860.

1889. Westm. Note-book, 129. A. Bennett, Records of Plants.
 'Lake Lancashire, C. C. Babington, ex Newbould.'

Papaver Argemone L. *P. maritimum* With. C.F.R., 1597.

1796. Withering, ed. iii., 486. Roosebeck, Atkinson. 1801.
 Withering, ed. iv., 476, and repeated in Withering, 1812, Ed. v., 595;
 1818, Ed. vi., 643; and 1830, Ed. vii., 646. 1842. Evans, Furness
 and F. Abbey. Atkinson rep., and in 1843. Jopling, Furness and
 Cartmel, by Aiton; in 1874. Miss Hodgson in J. of B., and in 1885.
 Baker.

NOTE.—I have not seen the plant *at* Roosebeck, although sought
 for. It is to be found between Roosebeck and Aldingham on shore-
 bank.—L. P.

* Bolton, John B., Urswick, near Ulverston, b. 1791, d. 1874. Published
 'Geological Fragments,' 1869. First a weaver, latterly a land surveyor. Corres-
 pondent of Sedgwick and others. Sketch biography in Casson's 'Furness
 Worthies,' pp. 35-9, 1889.

Meconopsis Cambrica Vig. *P. Cambricum* L. C.F.R., 1640.

1787. Withering, ed. ii., 553. Near Holker, Lancashire, Woodward, and repeated in 1796. Ed. iii. and 1801. Ed. iv., 478; also 'By the Ferry House, Windermere,' Woodward. 1805. Turner and Dillwyn, Bot. Guide ii., 369, rep. Woodward's first locality, his second merged in 'near the Ferry House, Windermere, Dawson Turner.' Brathay, Rev. J. Dodd. Woodward's first locality repeated in Withering, 1812, Ed. v., 1818, Ed. vi., and 1830, Ed. vii. 1835. Watson, New Bot. Guide i., 299. Woodward's first locality and Rev. J. Dodd rep.; and Woodward's second ascribed to 'B(ot.). G(uide).' 1842. Wordsworth, Guide, 23. About the Ferry, Windermere. 1843. Jopling, Furness and Cartmel, 258. Near Summerhill and Broughton Bank, Cartmel, Aiton and Wilson. (1855) 1861. Miss Martineau, Guide, 182. Near the Ferry Inn and other parts of the Furness Fells. 1864. Linton, Lake Country, 318, no locality. 1874. J. of B., Miss E. Hodgson. Near every hamlet in High Furness. 1869. Aspland's Guide. Within six miles of Grange, A. Mason. 1885. Baker's Flora, 26. Mr. and Mrs. Hill incline to consider it truly wild on the shores of Windermere and Esthwaite Water. 1892. Naturalist, 83. Near Penny Bridge; not near a house. At Coniston it appears on the road to Brantwood, and passing there goes down to the shore of the Lake, about half a mile from Mr. Ruskin's residence. An escape.—L. Petty.

Glaucium flavum Crantz. C.F.R., 1548.

Papaver corniculatum luteum (circ. 1680. See below, 1889).

Chelidonium glaucum L.

1787. Withering, ed. ii., 548. Cartmel Sands and Roosebeck, Woodward. 1796. Rep. in Withering, ed. iii. Walney Island, Atkinson. 1801. Both rep. in Withering, ed. iv. 1805. West, Antiq., ed. Close. Atkinson rep. 1812. Withering, ed. v., 592, rep. Woodward and Atkinson, and in ed. vi., 1818, ed. vii., 1830, 644. 1830. Otley¹, Guide, ed. iv., 145. On the coast at Flookburgh, and rep. 1834, ed. v., 145, as *G. luteum* (Hooker), and 1837, ed. vi., 149. 1835. Watson, New Bot. Guide, i., 299. Otley rep. and named. 1842. Evans, Furness and Furness Abbey, 24. Atkinson rep. 1843. Jopling, Furness and Cartmel, 258. Seashore, Bardsea. Aiton. Winder Hall, Cartmel, Wilson. 1844. Otley, ed. vii., 148. 1849. Ed. viii., 139, as before. 1861. Phytologist, 237. Shore below Humphrey Head, C. J. Ashfield. 1874. J. of B., Miss E. Hodgson. As *G. luteum* Scop. On all the shores. 1869. Aspland's

¹ There is a good account of Otley in Trans. Cumb. Assoc., 1877, pt. 2, pp. 125-159, by the late Mr. Clifton Ward. Also a few additional particulars in Clarke and Hughes' 'Life of Sedgwick,' 1892.

Guide. Within six miles of Grange, A. Mason. 1885. Baker's Flora, 26. Woodward, Atkinson, Otley, Aiton and Wilson rep. Furness Shore at Bardsea, and West Shore, Walney Island, Miss E. Hodgson. C. J. Ashfield confirmed, J. G. Baker. 1889. Westm. Note-book, 184. Lawson's Note-book (circ. 1680). Extracts edited by J. A. Martindale. 'About Roosebeck in Furness,' Lawson.

NOTE.—Cartmel Sands, coast at Flookburgh, Winder Hall, are all the same stretch of coast-line, and the two former cannot be located. I have booked the species on this shore, 'Scattered along the coast—Chanon Winder to Gully Nab, and abundant there.' This in reality covers all three.—L. P.

Chelidonium majus L. C.F.R., 1548.

1843. Jopling, Furness and Cartmel, 258. Near Coniston Priory, Aiton. Near Flookburgh, Wilson. 1864. Linton, 318. 'Common,' no locality. 1874. J. of B., Miss E. Hodgson. Frequent near old gardens. 1869. Aspland's Guide. Within six miles of Grange, A. Mason. 1885. Baker's Flora, 26, Colwith. Aiton and Wilson, rep.

Corydalis bulbosa DC. *Fumaria intermedia* With.

1796. Withering, ed. 3, 620. Near Ulverston; and between Cartmel and Kendal, Robson.¹ 1801. Withering, ed. 4, 606, rep. 1805. West, Antiq. Furness. Near Ulverston, Atkinson.²

As *C. solida*.

1805. Turner and Dillwyn, Bot. Guide. Robson rep. 1812. Withering, ed. 5, 763; 1818, ed. 6, 814; 1830, ed. 7, 823. Robson rep. 1835. Watson, New Bot. Guide, 1, 299. Robson rep., but ascribed to 'B.G.' 1842. Evans, Furness and F. Abbey, 25. Near Ulverston (Atkinson inferred). 1885. Baker's Flora, 28 (*C. solida* DC.). Robson repeated.

Corydalis lutea DC.

1893. Naturalist, 355. On a wall, outside a garden, Grange. An escape.—L. Petty.

Corydalis claviculata DC. *Fumaria claviculata* L. C.F.R., 1597.

1775. Jenkinson, Brit. Plants, 167. North of Lancashire. 1778. Robson, S., Brit. Flora, 93. In Lancashire. 1796. Withering, ed. 3, 621-2. Dry stony places in Furness Fells, Atkinson; and repeated in 1801, Withering, ed. 4, 607, 1805. West, Antiq. Furness, 377; 1812. Withering, ed. 5, 765; 1818. Withering, ed. 6, 817; 1830, ed. 7, 825; and 1842. Evans, Furness and F. Abbey, 25. 1843. Jopling, Furness and Cartmel,

¹ Edward Robson. See Britten and Boulger, 'Index,' 145.

² For Atkinson, see Britten and Boulger's 'Index,' 1893, Addenda, p. xv.

258. Furness Fells (Aiton). Long Scar, Holker (Wilson). 1864.
 Linton, Lake Country, 318. Not uncommon, no locality. 1874.
 J. of B., Miss E. Hodgson. Roudsea Wood. Near Bank End, near
 the Duddon, i.e., near Broughton-in-Furness, Mrs. Hodgson. 1869.
 Aspland's Guide. Within 6 miles of Grange. A. Mason. 1885.
 Baker's Flora, 27. Atkinson, Aiton, Wilson, and Miss Hodgson, rep.
 Amongst stones near the mines, and on the Fells, Coniston, Miss
 Beever. [1885. J. of B., Brathay Valley, A. W. Bennett. On the
 Lancashire side?]. 1890 and 1893. Hankinson's, afterwards
 Atkinson's, Guide to Grange. Included as I had seen the plant in
 the district.—L.P.

Fumaria Boræi Jord. C.F.R. (Aggregate, *capreolata*), 1670.
 1862. Bab. Man., ed. 5. Windermere. 1863. Eng. Bot., ed. iii.,
 i., 106. Windermere, Lancashire, Babington. 1874. J. of B., Miss
 E. Hodgson. Rosshead hedges, near Ulverston. Bardsea, near the
 shores. School Lane, Isle of Walney.

As *capreolata*, but probably this: 1775. Jenkinson,¹ Brit. Plant.,
 167. North of Lancashire. 1843. Jopling, Furness and Cartmel, 258.
 Common in cultivated fields in Furness and Cartmel, Aiton and
 Wilson.

Fumaria confusa Jord. C.F.R., 1848.

1874. J. of B., Miss E. Hodgson. Rosshead hedges near
 Ulverston; Furness shores at Roosebeck; Friends' Meeting House
 near Hawkshead.

Fumaria densiflora DC. *F. agraria* Lag. C.F.R., 1843.

1850. Bot. Gaz. 54. Hawkshead, F. A. J. Hort.² 1856. Bab.
 Man., ed. iv. Hawkshead, and rep. in 1862. Bab. Man. ed. v. 18,
 1863. Eng. Bot. ed. iii., I., 107 (as *confusa* Jord.). Hawkshead,
 Babington. 1885. Baker's Flora, 28 (as *micrantha* Lag.). Near
 Hawkshead, Rev. F. A. J. Hort.

Fumaria officinalis L. C.F.R., 1548.

1775. Jenkinson, Brit. Plant., 167. North of Lancashire. 1864.
 Linton, Lake Country, 318. Common, no locality. 1874. J. of B.,
 Miss E. Hodgson. No locality. 1869. Aspland's Guide. Within
 six miles of Grange, A. Mason.

Nasturtium officinale R.Br. C.F.R., 1538.

1874. J. of B., Miss E. Hodgson. No locality.

¹ All that seems to be known of Jenkinson is to be found in Britten and
 Boulger's 'Index,' p. 93. 'Fl. 1775. Of Yealand, Lancs.' From a statement in
 his 'Brit. Plants,' 1775, he seems to have been either a tutor or a schoolmaster,
 as he mentions 'my pupil' and 'one of my pupils.' Is any more known? Some of
 his relatives must be living.

² See Britten and Boulger's 'Index,' 86-7.

Nasturtium sylvestre R.Br. C.F.R., 1633.

1885. Baker's Flora, 37. Very rare. Barrow-in-Furness, W. Foggitt.

Barbarea vulgaris R.Br. C.F.R., 1548.

1874. J. of B., Miss E. Hodgson. No locality.

Barbarea præcox R.Br.

1874. J. of B., Miss E. Hodgson. No locality. 1885. Baker's Flora, 36, 'Included in Miss Hodgson's list of Furness Plants ; no station cited.'

NOTE.—The 'American' cultivated cress, therefore of garden origin.

Arabis sagittata DC. *Arabis hirsuta* Scop. C.F.R., 1670.

1861. Phytologist, 259. Humphrey Head, Dr. Windsor. 1874. J. of B., Miss E. Hodgson. Rocks at Plumpton. Beach at Bardsea. Rocks in Roudsea Wood. 1885. Baker's Flora, 36, Miss Hodgson, rep.

Cardamine Amara L. C.F.R., 1666.

1843. Jopling, Furness and Cartmel, 259. Bogs in Furness and Cartmel, Aiton and Wilson. 1874. J. of B., Miss E. Hodgson. Brook at the 'Falls' farm, near Ulverston. 1885. Baker's Flora, 34. Aiton, Wilson, and Miss Hodgson, rep. Once found at Coniston, Miss Beever. Leven Banks, Newby Bridge, W. Foggitt.

Cardamine pratensis L. C.F.R., 1597.

1864. Linton, Lake Country, 319. Common ; no locality. 1874. J. of B., Miss E. Hodgson. No locality. 1885. Baker's Flora, 345. (High up on) Coniston Old Man, J. G. Baker.

Cardamine hirsuta L. C.F.R. (segregate) 1690.

1864. Linton, Lake Country, 319. Common, no locality. 1874. J. of B., Miss E. Hodgson. No locality.

Cardamine flexuosa With. C.F.R. (1796. J. of B., 1892, p. 85).

C. sylvatica Link.

1874. J. of B., Miss E. Hodgson. Graythwaite, Windermere.

I much regret that when the proof of the first paper came in, I was unable to refer to my note-books, and a few mistakes have crept in. Amongst the authorities read Petiver for Petever ; Herb. Brit., 1713-15 ; Miller's Gard. Dict. 1768 is Ed. 8, the last edition in his lifetime ; Withering, Ed. 3, is in four vols. ; the present editorship of the J. of B. began in 1880, not 1872. The present series of the 'Naturalist' contains so little to end of 1893 that it is omitted from the bibliography, but of course quoted in its place.

NOTES—ORNITHOLOGY.

Landrail wintering in Lancashire.—On February 24th, a 'Grass-quail' (*Crex pratensis*) was killed on the sewage farm at Stretford. The bird, when flushed, flew across a field and was captured in a clump of grass, where it had taken refuge. The man who skinned it stated that the bird was in good condition, and had no sign of injury. Another landrail was killed at the same place in the previous week.—CHAS. OLDHAM, Ashton-on-Mersey, March 6th, 1894.

Cuckoo in March.—Dr. Jackson Atkinson and I heard the Cuckoo (*Cuculus canorus*) distinctly and unmistakably on Easter Tuesday, the 27th ult., about 1.30 p.m., in the woods bordering the Nidd at Killinghall Bridge. My companion, who was a little distance away, also noted it quite independently, and we then heard it together. We did not search for the bird, as we had a train to catch, but neither of us entertained the slightest doubt on the point.—JAMES W. ADDYMAN, Belmont, Starbeck, Yorkshire, April 2nd, 1894.

Flamborough Bird-notes.—Some of our summer visitants have arrived on the Headland, the first to come that I observed being the Pied Wagtail (*Motacilla lugubris*) on April 1st, the Wheatear (*Saxicola ananthe*) April 7th. I saw the Cuckoo (*Cuculus canorus*) on April 9th. I saw several Hooded Crows (*Corvus cornix*) coming in from the sea. They had no doubt been leaving our shores for good, but had met with contrary winds, consequently had to put back again.—MATTHEW BAILEY, Flamborough, April 16th, 1894.

Bird-notes from Settle, Craven.—I have seen the Green Sandpiper (*Hedromas ochropus*) again on the Ribble all the winter until the middle of March. Several Goosanders (*Mergus merganser*) were on Malham Tarn all through March. The Peregrines (*Falco peregrinus*) are nesting. I have noted the following dates of arrival:—Pied Wagtail (*Motacilla lugubris*) and Reed Bunting (*Emberiza schaniclus*), March 7th; Redshank (*Totanus calidris*), March 14th; Dunlin (*Tringa variabilis*), March 17th; Wheatear (*Saxicola ananthe*), March 20th; Ring Ouzel (*Turdus torquatus*), and Merlin (*Falco aesalon*), March 31st; Redstart (*Ruticilla phænicura*), April 5th; Common Sandpiper (*Tringoides hypoleucos*), Willow-Wren (*Phylloscopus trochilus*) and Corn Bunting (*Emberiza miliaria*), April 9th; Yellow Wagtail (*Motacilla raii*), April 12th; Tree Pipit (*Anthus trivialis*), April 16th; and Swallow (*Hirundo rustica*), April 18th.—EDWARD PEAKE, M.A., Settle, April 22nd, 1894.

Varieties of the Starling.—Where vast quantities of birds are gathered together, it is only natural that individual variations in plumage should occasionally be met with. In the winter of 1892-3, a white starling (*Sturnus vulgaris*) was frequently seen in the afternoon with one of the many flocks which have a common roosting place in a plantation of Austrian firs in Ashton-on-Mersey. From a distance of at least five miles in every direction these flocks may be seen morning and evening, flying from and to this plantation, and the number of birds that congregate there nightly, is probably under-estimated at one hundred thousand. On the 13th of December last, an individual was shot which was of a rich brown colour; the primaries were white, and the tail feathers white splashed with brown, each feather on the breast and belly was broadly margined with pure white, giving the bird a curiously spotted appearance; the head and neck showed traces of the metallic sheen so noticeable in a normally plumaged bird.—CHAS. OLDHAM, Ashton-on-Mersey, March 6th, 1894.

NOTE—COLEOPTERA.

Hylurgus piniperda in Cumberland.—Our correspondent, Mr. W. Hodgson, A.L.S., of Workington, has recently published in a local paper the circumstances of the discovery of the Pine Beetle (*Hylurgus piniperda*) by him in Cumberland, in Sept. 1889. The notes also include the consensus of opinion as to the means of destroying this 'wood-worker.'

NOTES—LEPIDOPTERA.

Cirrhoedia xerampelina at Beverley in 1893.—Several specimens of this exceedingly local moth were taken at sugar at Beverley, last September, by Mr. Chapman, of that town, within sound of the Minster bells.—WILLIAM HEWETT, York, 23rd February, 1894.

Occurrence of *Xanthia aurago* in South Yorkshire.—Referring to Mr. Hewett's remarks on this species (Nat., p. 116), I have the following note, which I copy from the 'Young Naturalist' for 1887, p. 222:—'*Xanthia aurago* in October.—On October 22nd I captured, at rest on an oak, an apparently fresh emerged specimen of *X. aurago*. This specimen was procured in a small wood not a quarter of a mile away from the smokiest and most sulphurised portion of our town' (i.e., Sheffield). This wood, I may also state, is within half a mile as the crow flies from Mr. Brooke's happy hunting-ground and where, doubtless, the species will occur. This species has very often been taken in this neighbourhood, and by the old collectors not looked upon as a rarity.—A. E. HALL, Norbury, Sheffield, April 12th, 1894.

Mixodia palustrana not a Yorkshire Insect: a Correction.—The insect taken by Mr. Dan Robinson upon Greetland Moor, and which I named as above for him, turns out to be, not that species but *Pamplusia monticolana*, a species which Wilkinson (British Tortrices) speaks of as not uncommon in the North of England in July and August on moors and heathy places among *Calluna vulgaris*, especially in Yorkshire and Lancashire. Mr. Porritt, in his 'List of Yorkshire Lepidoptera' speaks of it as common, occurring on Rombald's Moor, Harden Moor, and Black Hills near Bingley, and at Ingleborough.—B. BLAYDES THOMPSON, 1, Mylne Street, Myddelton Square, London, E.C., March 24th, 1894.

[It seems a pity that records of new or rare species in critical groups should not be submitted to well-known and competent authorities before being offered for publication.—EDS.]

NOTE—AMPHIBIA.

The Palmated Newt near Scarborough.—I have to record *Lissotriton palmipes*, which has not been taken in this district before. Last year Mr. Bevan, the Secretary of the Scarborough Field Naturalists' Society, captured a Newt which he thought might belong to the above species; but unfortunately he returned it to the water from which he had taken it, without first showing it to any competent authority. However on the 29th of March last, I had the pleasure of verifying Mr. Bevan's observations, as I captured several females, and two males in full breeding dress, from the same piece of water, the males being fully palmated in their hind feet, and the caudal filament especially noticeable. From Messrs. Clarke and Roebuck's 'Vertebrate Fauna of Yorkshire,' which, however, is some ten or twelve years old now, the nearest locality given where this Newt occurs, is in the Whitby district.—OXLEY GRABHAM, M.A., Croxton Villa, Scarborough, April 10th, 1894.

NOTE—REPTILES.

'Serpents' in Lancashire in 17th Century.—In reading the recently-published second volume of Mr. H. B. Wheatley's edition of Pepys' *Diary* I find, under date of February 4th, 1661-2, the following:—'To Westminster Hall, where it was full term. Here all the morning, and at noon to my Lord Crew's, where Mr. Templer (an ingenious man and a person of honour he seems to be) dined; and, discoursing of the nature of serpents, he told us some that in the waste places of Lancashire do grow to a great bigness, and that do feed upon larks, which they take thus:—They observe when the lark is soared to the highest, and do crawl till they come to be just underneath them; and there they place themselves with their mouths uppermost, and there, as is conceived, they eject poyson up to the bird; for the bird do suddenly come down again in its course of a circle, and falls directly into the mouth of the serpent; which is very strange.' Certainly, 'very strange'! Has this very remarkable fact been noticed by any Lancashire naturalist of recent years; for we are just as credulous now, as then, according to the observer and the observed. Is there an earlier record for these creatures in Lancashire?—L. PETTY, Ulverston, January 2nd, 1894.

ENGLISH DEER-PARKS.

A | Descriptive List | of the | Deer-Parks and Paddocks | of | England.
 | By | JOSEPH WHITAKER, F.Z.S. | . . . | etc., etc. | London | Ballantyne,
 Hanson & Co. | 1892. [8vo, cloth, xviii+204 pages + 4 of advertisements.]

GREAT pressure upon our space has hitherto prevented our noticing this excellent volume, which partakes both of the character of a directory or census of the cervine population of England and of a work on the natural history of the various species which are kept in a state of greater or less domestication in the southern half of our island. The census portion of the work consists of an enumeration of the various parks, classified in the alphabetical order of their names under their respective counties. Under each park is given the owner's name, the number of acres it contains, the kind of fencing by which it is enclosed, the character of the water-supply, the number of Fallow Deer, Red Deer or Roe Deer which exist, the average weight both of bucks and does, and miscellaneous items of information not otherwise provided for—such as the character of the vegetation, timber, soil and situation, and notices of such other animals as are kept with the deer. There are parks in every one of the forty counties of England, ranging in number from one in Huntingdonshire to 33 in Yorkshire. The numbers kept in our northern counties are as follow: 10 in Cheshire, 7 in Cumberland, 13 in Derbyshire, 4 in Durham, 8 in Lancashire, 7 in Lincolnshire, 5 in Northumberland, 9 in Nottinghamshire, 4 in Westmorland, and, as before stated, 33 in Yorkshire. A list is also given of 50 deer-parks described in Shirley's 'English Deer Parks' in 1867, which no longer contain deer, 9 of these being in Yorkshire, 2 in Lincolnshire, and one each in Durham and Westmorland. No reference is made under Lyme Park to the wild white cattle which used to inhabit it, and under Chillingham the briefest allusion is made to the fine herd which constitutes the great interest of that park. In the case of Wollaton, Notts, and Annesley, Notts, however, interesting references to their former herds of Wild Cattle are given, and as for Gisburn and Burton Constable, Yorkshire, which formerly contained the cattle, they find no place in this work, not being deer-parks.

From a natural history point of view, the introductory chapter is the most interesting part of the book; it gives a few historical particulars, notices of places where Red Deer run wild, including Martendale Fells in Westmorland, reference to the existence of wild Roe Deer sparingly in Northumberland, Durham and Cumberland, and a series of interesting notes on the life and habits of Fallow-

deer, as observed in Mr. Whitaker's own pretty little park at Rainworth in Notts. Red Deer are now kept in 86 parks, as against only 31 in 1867, and at Bolton Abbey and Barningham, Yorkshire, as well as at a single Oxfordshire and a single Berkshire park they are the only kind of deer kept. The white or cream-coloured variety of the Red Deer with flesh-coloured noses and pale blue or straw-coloured eyes are mentioned as found in six parks, including Welbeck, where there are fourteen head, and Alnwick, where there are two. In two parks the herds of Fallow Deer are pure white; these are Welbeck, where there are over 130, and Sledmere, which contains 30. The Welbeck fawns are pure white from birth, but the Sledmere ones commence their existence of a dark cream colour, and do not become white till three years old. On the other hand the Sledmere fawns are always born true to colour, but at Welbeck there is a tendency to revert to the normal coloration of the species, which has to be checked by killing every fawn born 'off colour.' In four parks the melanic or black variety alone is kept, two of these being Levens, Westmorland, and Stanton-in-the-Peak, Derbyshire, at which latter park the fawns are all born true to colour. A few notes on the proportion of deer to acreage, and on the method of catching them when wanted, close the introduction.

In looking over the 'directory' portion of the work, one cannot but notice the great variety of animal and bird life which the parks are mentioned as containing in addition to the deer, cattle and various fancy breeds of sheep and goats, numerous introduced and indigenous mammals and birds, of which are noted: Flands, Elk, Hares, Rabbits, Shetland ponies, Emus, Rheas, Herons, Sika Deer, Axis Deer, Wapiti, Brahminy Cattle, etc., besides numerous species of wild fowl. The heronries in the parks at Dallam Tower, Westmorland, and Crofton, Cumberland, are duly mentioned, as also that protection is afforded at Duncombe Park, Yorkshire, to Badgers and Otters. The fine timber which parks naturally contain is often alluded to, and we particularly note, in addition to the well-known grand oaks of Thoresby and Welbeck, Notts, references to sycamores 'of rare size' at Carden, Cheshire, the 'best lime trees in Cheshire' at Oulton Park, and the 'largest example in the world' of *Salix alba* at Haverholme Priory, Lincolnshire, where, at five feet above the ground, it measures 26 feet in girth. There are a few illustrations of no very great account, including a plate of 'The Buck Gates in Welbeck Park' and a woodcut of 'Deer Fence at Rainworth,' both in Notts. Altogether the book is of considerable interest to naturalists, and still more to those whose privilege it is to possess a herd of deer on their own property.—W.D.R.

In Memoriam.

CHARLES ASHFORD.

THE name of Charles Ashford is probably known to few readers of 'The Naturalist' who are not directly interested in conchology, for it was, perhaps, the main characteristic of his life that he was ever without ostentation, never forcing himself upon others, never



*Yours truly,
Charles Ashford*

*Christchurch, Hants
30 Jan 1894 Even^g*

troubling to attract the attention which his attainments warranted, yet withal perfectly courteous to every acquaintance, and the soul of kindness to his friends. Who of the many correspondents that he had at one time or another does not remember the fulness and

painstaking accuracy of his letters—the choice language, the terse sentences tending sometimes to hide the depth of meaning that they contained; who again of his friends does not cherish the memory of him whose constant deeds of kindness are known only to themselves? One who was both correspondent and friend writes of his letters that ‘they reveal, what we who knew him continually felt, the gentleness, truthfulness, and beauty of his character.’

He was born on the 7th of January, 1829, at Baldock, Hertfordshire. When he was nine years of age he was sent to the Friends’ School at Ackworth, near Pontefract, and here he remained as scholar and teacher for over thirteen years. Few schools now-a-days turn out more naturalists than does Ackworth, but it was while Charles Ashford was at school that the first impetus was given to such study by the lessons and help of William Sewell, one of his teachers. We hear of him entering heartily into the games and spending a good deal of time in drawing, thereby no doubt obtaining that facility in draughtsmanship which enabled him to produce the great quantity of exquisite drawings of anatomical conchology which are now in the hands of Mr. J. W. Taylor of Leeds. While a junior teacher in the school he devoted a good deal of time to Ornithology, and became a competent oologist: in this subject he was always interested, and the pleasure he took in his brother the late J. H. Ashford’s collection of birds’ eggs, was only second to his own particular hobby of Conchology. It was his colleague, Henry Thompson (now of Arnside) who led him to be interested in birds, and he says that ‘the warm interest which Charles Ashford brought to bear upon the effort gave a life and force to our ornithological pursuits which was of great value.’ So it was in everything which Mr. Ashford undertook.

While he was at Ackworth School there was established in the village of Ackworth a college—known as the Flounders Institute—to further the education and training of teachers in the schools of the Society of Friends. This college is about to be transferred to Leeds, where the students will have the great advantages offered at the Yorkshire College, but will lose those country surroundings which have helped no little to produce there many ardent naturalists. On leaving Ackworth School, Charles Ashford studied for three consecutive years (1851-4) at the Flounders Institute, and here it was that his interest in conchology was aroused and strengthened. One of his fellow-students was J. W. Watson, now of Redcar, who is best known as joint author of Dixon and Watson’s little work on Land and Fresh Water Shells, which was for a long time the popular elementary illustrated manual on the subject; it was at Ackworth that

many of the observations which led to the production of this little book were made, for during these years several students worked hard and successfully at the Mollusca of the district, but none with greater ardour and persistency than C. Ashford. Every field and pool, and stream and hill, and quarry and wood was searched, and many were the expeditions to Winterset Reservoir, to Hemsworth Dam, and especially to Went Vale, 'whither' (writes another fellow-student) 'on some bright midsummer mornings we started at four o'clock and returned with boots soaked through with dew from the meadows, but also laden with bags and boxes of fine soil and débris from the foot of the magnesian limestone cliffs, from which by careful searching we obtained a number of species of the minute forms of *Vertigo*, the smaller *Helices*, and some others. I can in imagination now see Charles Ashford, with a sheet of paper on his desk on which was spread out some of this débris, patiently working it over, and hear his pleased exclamation as a specimen of *Vertigo pusilla*, *minutissima*, or *substriata* turned up.' As the outcome of this work, Mr. Ashford published a list of the Ackworth Molluscs in the 'Zoologist' for April 1854, and 'The Naturalist' for August of the same year, and repeated the list (with some revision but not with later work in the district) in the 'Quarterly Journal of Conchology' for May 1874. It is interesting to note how a little alteration in wording in his latter list increased its value, and also to learn from Hugh Richardson, who sifted all the evidence very thoroughly for a new list of the Ackworth shells in 1887, that 'his work proved to have been most carefully done.'

Astronomy also claimed his attention, and he made good use of the excellent telescope at the college, making one winter a special study of Orion, and spending, too, many an evening at the transit instrument, filling up the intervals between the transits of 'good' stars with observations of various double stars, nebulae, and clusters. With all this scientific work he yet found time for close and successful study and for kindly help of others: this we learn from the unanimous voice of his fellow students. 'He did *valde bene in omnibus*,' writes one, 'and was our best classic, our best mathematician, our best naturalist, all in one;' another has 'the pleasantest remembrance of his cheerful companionship . . . his helpfulness in the pursuits of our leisure hours and his quiet influence for good through all.'

When Charles Ashford left Ackworth in 1854 he left the north of England finally, except for some time spent later at Redcar; with his work in his favourite branch while teaching at Hitchin and at Tottenham we have not much to do, nor indeed with his short stay

at Yarmouth, Isle of Wight. For the last 15 years of his life he lived at Christchurch, in Hampshire, devoting a very large share of his time to conchology; he worked out the mollusca of the district so thoroughly that there is comparatively little left for others to do; he gave much time, pains, and skill to anatomical research. Those who would follow his work in this line may be referred to a forthcoming article in the 'Journal of Conchology,' by Mr. J. W. Taylor, to whom we are indebted for the use of the autograph and portrait appearing in this month's 'Naturalist'—the autograph is reproduced from the last letter that he ever wrote, penned late in the evening preceding the morning of his death. Last, but not least, he arranged and improved the exquisite collection of British Land and Freshwater Shells that for the next twelve months will fittingly find a home in the Leeds Museum—not 20 miles from the district where he first began to study the science. All northern conchologists should make an effort to see the 'Ashford Collection' while it is in Yorkshire—it is not too much to say that there will be few who cannot learn something from the care and taste of the arrangement or from the instructive series from various localities of one species or another.

For some time a gradual failure of his health had been apparent, and on the 31st of January last he was found unconscious in his bed, and died almost immediately. Up to a late hour the evening before he must have been at work at his favourite study, willingly interrupting it, however, to give half-an-hour's advice and practical help in scientific matters to the writer of this notice. We who knew his fund of humour, his kindly acts, his life so lived for others, long

'For the touch of a vanished hand
And the sound of a voice that is still.'

CHRISTCHURCH, HANTS,
May 1894.

C. IRWIN EVANS.

NOTES AND NEWS.

At the meeting of the Entomological Society of London, held on March 14th, 1894, the Rev. Canon Fowler read a paper on 'Some new species of *Membracidae*,' a family of Hemiptera.



At the meeting of the Entomological Society of London, held April 11th, 1894, were exhibited, for Mr. G. A. J. Rothney, once of Nottingham, several specimens of a species of Hemiptera (*Serinetha augur* Fab.), and of a species of Lepidoptera (*Phaуда flammans* Walk.), the latter of which closely resembled and mimicked the former. Mr. Rothney had found both species abundantly on the roots and trunks of trees in Mysore, in November last, in company with Ants (several species of *Camponotus* and *Cremastogaster*). The Hemiptera appeared to be distasteful to the Ants, as they were never molested by them; and he thought that the species of Lepidoptera was undoubtedly protected from attack by its close imitation of the Hemipteron. Mr. Goss said he was indebted to Mr. C. J. Gahan for determining the species. A discussion followed on the mimicking species.

ADDITIONS TO THE WEST RIDING FUNGUS FLORA.

CHARLES CROSSLAND,

. *Halifax.*

Now that an annual fungus foray has become an established institution in Yorkshire there is some likelihood of this sadly neglected, though very interesting and important, branch of botany having the attention given to it in this county which it has so long needed. What is wanted is a few earnest working mycologists in each of the three Ridings; probably the forays may in time be the means of producing such—let us hope so. It being near upon eighteen months since any fungi new to West Yorkshire were recorded in ‘The Naturalist,’ it is deemed advisable to bring the records, so far as we are able, up to date. The following is about the ninth list for the West Riding since the appearance of Lees’ West Yorkshire Flora; it affords some indication of the work there remains to be done throughout the county. It will be seen by the initials N. and P. that Messrs. J. Needham and H. Pickles, of Hebden Bridge, two excellent field-botanists, have collected the greater proportion. These have been forwarded to the writer, who has also to acknowledge the valuable assistance, in many ways and on numerous occasions, of Mr. H. T. Soppitt, of Bradford. Critical species have been forwarded to Mr. Masee, of the Royal Herbarium, Kew, who has very kindly given us the benefit of his vast experience by identifying such as have been submitted to him. Those marked with one asterisk are new to the British Flora, while those marked with two are new species. The records for *Coprinus oblectus* Fr. and *Strobilomyces strobilaceus* Berk. are simply additional stations which it was thought necessary to note, as the two species are so rare.

AGARICINÆ.

Amanita nitida Fr. Crimsworth Dean, Wadsworth; J. Needham and H. Pickles, 1893.

Tricholoma cuneifolium Fr. var. **cinereo-rimosus** Batsch. Crimsworth Dean, Wadsworth; J. Needham and H. Pickles, 1893.

Tricholoma sordidum Fr. Dunghill, railway station, Hebden Bridge; H. T. Soppitt, 1893.

- Clitocybe venutissima** Fr. Amongst larch leaves, Hardcastle Craggs; Needham and Pickles, 1892.
- Clitocybe ditopus** Fr. Hebden Bridge; N. and P. North Dean Wood, near Halifax; U. Bairstow, 1893.
- Mycena galericulata** Scop. var. **calopes** Fr. Wade Wood, Luddenden, 1892.
- Mycena pullata** Berk. & Cke. On the ground among leaves, Sunwood, Lightcliffe. Elland Park Wood, Elland, 1892.
- Mycena acicula** Schæff. Higher Greenwood, Heptonstall; N. and P., 1892.
- Omphalia philonotis** Lasch. Near watering-trough, Hebden Bridge; N. and P., 1892.
- Omphalia demissa** Fr. On moss, High Greenwood; N. and P., 1893.
- Omphalia belliae** Johnst. Higher Greenwood; N. and P., 1893.
- Pleurotus ruthæ** B. & Br. On base of gate post, North Dean Wood; U. Bairstow, 1893.
- Entoloma prunuloides** Fr. On the ground in damp place, Higher Greenwood; N. and P., 1893.
- Clitopilus orcella** Bull. Lee and Higher Greenwood, Heptonstall, 1893.
- Clitopilus cretatus** B. & Br. Hebden Bridge; H. T. S., 1892.
- Clitopilus vilis** Fr. Crimsworth Dean, Wadsworth; N. and P., 1894.
- Nolanea rufo-carnea** Berk. Higher Greenwood, Heptonstall; N. and P., 1892.
- Inocybe flocculosa** Berk. Lee, Heptonstall; N. and P., 1892.
- Inocybe eutheles** B. & Br. Amongst pines, Hebden Bridge; N. and P., 1892.
- Inocybe dstricta** Fr. On the ground amongst pines, Hebden Bridge; N. and P.
- Hebeloma crustuliniforme** Bull. var. **minor** Cke. Higher Greenwood, Heptonstall; N. and P., 1893.
- Naucoria striæpes** Cooke. On soil heap, Elland, 1892.
- Naucoria graminicola** Nees. Hardcastle Craggs; N. and P., 1893.
- Stropharia merdaria** Fr. Hollock, Lee, Erringden, Heptonstall; N. and P. Lightcliffe, 1892. Skircoat, 1893.
- Hypholoma elæodes** Fr. Wade Wood, Luddenden; H.T.S., 1892.

- Hypholoma storea** Fr. var. **cæspitosa** Cooke. Elland Park, 1892.
- Psilocybe udus** Pers. Hirst, Wadsworth. Crimsworth Dean, Wadsworth; N. and P., 1893.
- Psilocybe cernuus** Fl. Dan. Heptonstall; N. and P., 1892.
- Psilocybe clivensis** B. & Br. Nutclough, Hebden Bridge; N. and P., 1893.
- Psathyra bifrons** Berk. High Greenwood, Heptonstall; N. and P., 1892.
- Psathyra pennata** Fr. Elland Park Wood; H.T.S., 1892.
- Panæolus phalænarum** Fr. Heptonstall. Lightcliffe, 1892. Warley, 1893.
- Panæolus sphinctrinus** Fr. Lightcliffe, 1893.
- Anellaria scitula** Mass. Luddenden Dean; H.T.S., 1892.
- Coprinus oblectus** Fr. (*Agaricus oblectus* Bolton). Very plentiful at Halifax, 1893. Has also turned up plentifully at Hebden Bridge on the town-tip; N. and P. Also on road scrapings at Brearley, near Mytholmroyd; N. and P., 1893.
- Coprinus stercorarius** Fr. On manure heap, Acre, Heptonstall; N. and P., 1892.
- Cortinarius (Inoloma) bulliardi** Fr. Sunwood, Lightcliffe, 1892.
- Cortinarius (Inoloma) callisteus** Fr. Higher Greenwood, Heptonstall; H. T. Soppitt, 1893.
- Cortinarius (Dermocybe) camurus** Fr. Crimsworth Dean, 1892; N. and P.
- Cortinarius (Dermocybe) cinnamomeus** Fr. var. **semi-sanguineus** Fr. High Greenwood, Heptonstall, 1892; Pecket Wood, Wadsworth; N. and P., 1893.
- Cortinarius (Telamonia) armillatus** Fr. North Dean Wood; U. Bairstow. Wade Wood, Luddenden; J. W. Sutcliffe. Hebden Bridge; N. and P., 1893.
- Cortinarius (Hygrocybe) jubarinus** Fr. Pecket Wood, Wadsworth; N. and P., 1893.
- Cortinarius (Hygrocybe) decipiens** Fr. Crimsworth Dean; N. and P., 1892.
- Gomphidius gracilis** Berk. Higher Greenwood, Heptonstall; N. and P., 1893.
- Paxillus panuoides** Fr. Hardcastle, 1893.
- Hygrophorus (Camarophyllus) pratensis** Fr. var. **cinereus** Fr. Crimsworth Dean; N. and P., 1893.

- Hygrophorus (Hygrocybe) colmannianus** Blox. Hurst. Wadsworth; N. and P., 1893.
- Hygrophorus (Hygrocybe) intermedius** Pass. Lightcliffe, 1892.
- Hygrophorus (Hygrocybe) chlorophanus** Fr. Luddenden Dean, 1892.
- Lactarius cremor** Fr. var. **pauper** Karst. Hebden Bridge; N. and P., 1892.
- Lactarius helvus** Fr. Crimsworth Dean; N. and P., 1892.
- Lactarius obliquus** Fr. Sun Wood, Lightcliffe, 1892.
- Russula furcata** Fr. Elland Park Wood, 1892. Higher Greenwood, Heptonstall; N. and P., 1893.
- Russula consobrina** Fr. var. **sororia** Larbr. Pecket Wood; N. and P., 1892.
- Cantharellus cibarius** Fr. var. **rufipes** Gillett. Higher Greenwood, Heptonstall; N. and P., 1893.

POLYPOREI.

- Boletus alutarius** Fr. Hardcastle; N. and P., 1893.
- Boletus porphyrosporus** Fr. Higher Greenwood, Heptonstall; N. and P. Wade Wood, Luddenden; U. Bairstow. Sunwood, Lightcliffe; 1892. Crimsworth Dean; N. and P. Hardcastle; N. and P., 1893.
- Strobilomyces strobilaceus** Berk. Pecket Wood, Wadsworth, two separate places; N. and P., 1893. North Dean Wood, near Halifax, very fine specimens; U. Bairstow. These are additional stations for this very rare and interesting fungus.
- Polyporus rostkovii** Fr. North Dean Wood; U. Bairstow.
- Polystictus hirsutus** Fr. On worked wood, Dean Clough Dye-works, Halifax, 1892.
- Poria micans** Fr. Higher Greenwood, Heptonstall; N. and P., 1892.
- Trametes inodora** Fr. Luddenden Dean; J. W. Sutcliffe, 1893.
- Trametes mollis** Fr. Elland Park Wood, 1892.
- Merulius serpens** Tode. Elland Park Wood, 1892.

HYDNEI.

- Hydnum rufescens** Pers. Higher Greenwood, Heptonstall; N. and P., 1893.
- Hydnum viride** Fr. Gibson Wood, Hardcastle; N. and P., 1892.
- Irpex deformis** Fr. Cragg Vale, near Mytholmroyd; T. H. Aspin, 1892.
- Radulum epileucum** B. & Br. North Dean Wood, near Halifax; H. T. Soppitt., 1892.

THELEPHOREI.

- Thelephora biennis** Fr. North Dean Wood; T. H. Aspin, 1893.
- Peniophora crosslandi** Mass. We took this for a small form of *P. gigantea*, but Mr. Masee says :—‘ Resembling *P. gigantea* in being soft and fleshy when growing, and cartilaginous and separable from the matrix when dry, but differing in the shorter cytidia and smaller spores.’ Hardcastle; N. and P., 1892.
- Corticium sulphureum** Fr. Hardcastle; H.T.S. Pecket Wood, N. and P., 1892.
- Corticium calceum** Fr. Elland Park Wood, 1892.
- Corticium scutellare** B. & C. Elland Park Wood, 1892.

CLAVARIEI.

- Clavaria grisea** Pers. High Greenwood, Wadsworth, 1892. Winterwell, Crimsworth Dean; N. and P., 1892-3.
- Clavaria rosea** Fr. Acre, Heptonstall, N. and P.; H. T. Soppitt. A most lovely species; clear rose pink.
- Clavaria dissapibilis** Britr. Hardcastle; N. and P., 1893. ‘A very distinct species, not at all uncommon, and previously mixed up with *C. fragilis*, from the yellow form of which it differs in the deeper orange colour and spinulose globose spores. The usual form is clavate and obtuse above, becoming narrowed into a slender stem.’ G. Masee in *Grevillea*, vol. xxiii., p. 42.
- Calocera glossoides** Fr. Hebden Bridge, H. T. Soppitt; N. and P., 1892; Higher Greenwood, Heptonstall, 1893.

TREMELLINEI.

- Ditiola radicata** Fr. Hardcastle; N. and P., 1893.
- Tremella tubercularia** Berk. Higher Greenwood, Heptonstall; N. and P., 1892.

DISCOMYCETES.

- Geoglossum glutinosum** Pers. Acre, Heptonstall, H.T.S.; N. and P., 1892.
- Peziza lætirubra** Cooke. Midgehole, Hebden Bridge; N. and P., 1892.
- Peziza chateri** Smith. Hollins, Heptonstall; N. and P., 1892.
- Peziza ascoboloides** Bert. On the ground, Sunwood, Lightcliffe, 1892.
- Hymenoscypha scutula** Pers. On herbaceous stems, Sunwood, Lightcliffe. Hardcastle; N. and P., 1892.

- Hymenoscypha cyathoidea** var. **epilobii**. On *Epilobium hirsutum*, Higher Greenwood ; N. and P., 1893.
- Hymenoscypha nitidula** B. & Br. On dead grass and rush stems, Higher Greenwood ; N. and P. On dead *Stachys*, Sunwood, Lightcliffe, 1893.
- Hymenoscypha sordida** Fckl. On dead twig, Hardcastle ; N. and P., 1892.
- Helotium melleum** B. & Br. Gibson Wood, Heptonstall ; N. and P., 1892.
- Mollisia fallax** Desm. On larch cones, Higher Greenwood, Heptonstall ; N. and P., 1892.
- Mollisia atrocineria** Cooke. Ovenden. Elland Park Wood, 1892.
- Mollisia cyanites** Cooke & Phil. On *Epilobium hirsutum*, Higher Greenwood ; N. and P., 1893.
- Mollisia lignicola** Phil. Elland Park Wood. Lightcliffe, 1892.
- Mollisia grevillii** Berk. Crimsworth Dean ; N. and P., 1892.
- Mollisia atrata** Pers. Elland Park Wood. Ovenden, 1892.
- Mollisia plantaginis** Fckl. Elland Park Wood, 1892.
- Mollisia effugiens** Rob. Higher Greenwood, Heptonstall, 1893.
- Mollisia trifolii** Batsch. Hebden Bridge ; N. and P. North Dean Wood, 1892.
- **Lachnea (Sarcoscypha) tenuispora** Cooke & Masee. Crimsworth Dean ; N. and P., 1893. Described in *Grevillea*, vol. xxi., p. 121.
- Lachnea hirto-coccinea** Phil. & Plow. Crimsworth Dean ; N. and P., 1892.
- *Lachnea fossula** Limm. New to the British Flora. Norland Clough, near Halifax, Sept. 5th, 1892 ; H. T. Soppitt. This beautiful white *Lachnea* was first found in Britain about a month previous to the above date at Heaton Woods, near Bradford, by Mr. Soppitt, who forwarded his specimens to Mr. W. Phillips, who stated that the find was a rare one, it having, up to that time, been met with only in France. A careful microscopical examination proved that the Norland specimens were identical with those from Heaton Woods.
- Lachnella escharodes** B. & Br. Crimsworth Dean ; N. and P., 1892.
- Lachnella leuconica** Cooke. Elland Park Wood, 1893.
- Lachnella fugiens** Phil. Higher Greenwood ; N. and P., 1892.
- *Lachnella (Trichopeziza) carinata** Cooke & Masee. Higher Greenwood ; N. and P., 1893. On decaying fern stems.

A beautiful but very minute, vertically furrowed, *Peziza*. Described in Grevillea, vol. xxi, p. 121.

Ascobolus viridis Curr. Hebden Bridge ; N. and P., 1893.

Ascobolus atro-fuscus Phil. & Plow. Elland Park Wood, 1892.

****Ascobolus barbatus** Mass. & Crossl. On tan refuse near Leeds, Dec. 1893 ; H. Wager.

Vibrissea guernisaci Cronan. Very plentiful, especially on thorn wood in water, about Hebden Bridge. It also flourishes in Elland Park Wood. 1892.

Ombrophila brunnea Phil. Crimsworth Dean ; N. and P., 1893.

Ombrophila clavus A. and S. Elland Park Wood, 1893.

Calloria leucostigma Fr. Elland Park Wood. Sunwood, Lightcliffe, 1892. Crimsworth Dean ; N. and P., 1893.

Calloria luteo-rubella Nyl. Sunwood, Lightcliffe, 1892.

Calloria auricolor Blox. Gibson Wood, Heptonstall ; N. and P., 1893.

****Orbillia flexuosa** Crossl. On bark and wood, Sunwood, Lightcliffe, 1893. Described in Grevillea, vol. xxii., p. 44.

Patellaria olivacea Batsch. Elland Park Wood, 1892.

Patellaria pallida Berk. Higher Greenwood, Heptonstall ; N. and P., 1893.

****Patinella macrospora** Masee. Higher Greenwood, Heptonstall ; N. and P., 1893. Described in Grevillea, vol. xxii., p. 44.

PYRENOMYCETES.

Nectria pumila Schm. Higher Greenwood, Heptonstall ; N. and P., 1893.

Diatrype cincta B. Br. Elland Park Wood.

Valsa leucostoma Fr. Gibson Wood, Heptonstall ; N. and P. 1893.

Lophiostoma caulium DeNot. On dead stems of *Epilobium hirsutum*, Higher Greenwood, Heptonstall ; N. and P., 1893.

Leptosphæria ovina Fckl. Sunwood, Lightcliffe, 1892. Higher Greenwood, Heptonstall ; N. and P., 1893.

Stigmatea polygonum Fr. On *Polygonum bistorta*, Higher Greenwood, Heptonstall ; N. and P., 1893.

USTILAGINEÆ.

Ustilago tragopogi Pers. On *Tragopogon pratensis*, Lightcliffe ; J. H. Bolton, 1892.

PHYCOMYCETES.

Pilobolus vividus Pers. On rabbits' dung, Walshaw, Wadsworth ; N. and P., 1893.

Mucor tenerrimus Berk. Elland Park Wood, 1893.

Phycomyces nitens Kunze. On greasy soil and dust, foundry, Hebden Bridge; N. and P., 1892. On saddle of mutton, Halifax.

HYPHOMYCETES.

Aspergillus nigricans Cooke. In black-brown streaks on dried onion, Halifax, 1892.

Sporotrichum chlorinum Link. Elland Park Wood, 1893.

****Sporotrichum læticolor** Cooke & Masee. On bark of decaying stump, Cattywell Clough, Warley, Sep. 1891; T. H. Aspin. Described in *Grevillea*, vol. xx., Dec. 1891.

Botrytis fascicularis Sacc. On fruit of wild rose, Elland Park Wood, 1893.

Polythrincium trifolii Kze. & Schm. On living clover leaves, Hebden Bridge; N. and P., 1892.

Helminthosporium apiculatum Corda. On decaying grass, Hebden Bridge.

Brachysporium oosporium Sacc. On dead wood, Elland Park Wood, 1893.

Brachysporium obovatum Sacc. Higher Greenwood, Heptonstall; N. and P., 1893.

Coniothecium conglutinatum Corda. In black powdery streaks on leaves of *Acer pseudoplatanus*, Hardcastle; N. and P., 1893.

Graphium flexuosum Sacc. On twig, Crimsworth Dean; N. and P. Elland Park Wood, 1893.

Ægerita candida Pers. Sunwood, Lightcliffe. Elland Park Wood. Crimsworth Dean. 1892-3.

Fusarium georgina Berk. On decaying dahlia tubers, Halifax, 1892.

Fusarium roseolum Sacc. Elland Park Wood, 1893.

Pionnotes uda Sacc. On decaying thistle, Ovenden. On elder shoot, Elland Park Wood, 1892.

MYXOGASTRES.

Tubulina minima Mass. On dead leaves, Hardcastle; N. and P., 1892. This is a very minute species, and was discovered accidentally on the leaves while examining something else.

Cibaria aurantiaca Schrad. Sunwood, Lightcliffe, 1892.

Perichæna depressa Libert. Elland Park Wood, 1892. Skircoat; J. H. Bolton, 1893.

Trichia affinis DeBary. Sunwood, Lightcliffe, 1892.

Craterium confusum Mass. Hebden Bridge; N. and P., 1892.

NOTES AND NEWS.

An author's reprint lies before us of the very interesting Presidential Address which was delivered at the anniversary meeting of the Geological Society, last February, by Mr. W. H. Hudleston, M.A., F.R.S., in which, after the customary obituary notices of deceased Fellows and remarks on the presentation of medals, he deals with 'Some Recent Work of the Geological Society,' in continuation of the previous year's address.

After a longer interval than has hitherto elapsed, bryologists have now the pleasure of welcoming another part (15) of Dr. Robert Braithwaite's 'British Moss-Flora,' in which he completes the *Bryaceæ* and *Bartramiaceæ*. The high character of the work has been fully sustained throughout, and this new part is no exception to the rule; the excellence of the plates both in detail and clearness, and the fulness of the descriptive letter-press, in the diagnosis of the species and varieties, leave nothing to be desired. Dr. Braithwaite now comes nearly towards the end of what will be a monumental work which will be a *final reference* for years to come, both for the British bryologist and, so far as it includes the species, for the botanical world in general. The following epitome of species and synonyms may be useful as indicating the changes in the nomenclature amongst the British species, quoting only the synonyms in the works which have been mostly in use in Britain until its appearance, namely, Schimper's Synopsis (both editions), Wilson's Bryologia Britannica, and Hobkirk's Synopsis of British Mosses (both editions):—

Bryum gemmiparum DeNot. Cronica Briol. Ital. (1866); Epilogo (1876); Hob. Syn. (1884).

B. pallens Swartz, Musc. Suec. (1799); Wilson (1855); Schimp. (both); Hobk. (1873) = *B. origanum* Bosw., Nat. (1879); Hobk. (1884).

B. Duvalii Voit (1811); Schimp. 2nd (1860); Hobk. (1873).

B. turbinatum (Hedw.) Schwaeg. and var. β . *latifolium* (Schleich).

B. ventricosum Dicks., Fasc. crypt. (1785) = *B. pseudotriquetrum* Wilson; Schimper; Hobkirk.

B. neodamense Itzigs. Flora, 1841; Hobk. (1873); Schimp. (1876) = *B. cavifolium* Wilson MSS.

B. cyclophyllum (Schwaeg.) 1827; Schimp. (both).

B. capillare L. Sp. Pl. (1753).

B. Donii Grev. = *B. Donianum* in Schimp.; Wilson; Hobkirk.

B. provinciale Philib. MSS. in Hobk. (1884) = *B. Billardieri* Wilson (1855) and *B. Canariense* Schimp. Syn. (1860).

B. barbatum Wils. MSS. (1866) in Hobk. (1873) = *B. Stirtoni* Sch. Syn. (1876).

B. proliferum (L.) Sibth. = *B. roseum* Schreb. in Wilson, Schimp. and Hobk. (Under all the circumstances is it wise to change this old name? Dillenius in Ray's Synopsis (1724) gives it as '*B. roseum majus foliis oblongis*,' and though it may be considered heterodox, we should have preferred to have had the name retained.)

Conostomum boreale Swartz (1806).

Bartramia Ederi Gunn.

B. stricta Brid.

B. pomiformis (L.) Hedw.

B. norvegica (Gunn) Lindb. = *B. Halleriana* in Wilson, Schimper, and Hobkirk.

B. ithyphylla Brid.

Philonotis Wilsoni (Br. Sch.) = *Bartramidula* in Wilson, Schimper, and Hobkirk.

Ph. rigida Brid. (1827); Hobk. (1884) = *Bartramia rigida* in Wilson (1855) and Hobk. (1873).

Ph. cuspitosa Wils.

Ph. fontana (L.) Brid.

Ph. seriata Mitt.

Ph. calcarea Schimp. (1856).

Ph. adpressa Ferg. in Hobk. (1873).

Breutelia chrysocoma (Dicks) Lindb. = *Bartramia arcuata* in Wilson (1855), Hobk. (1873), and *Breutelia arcuata* in Hobk. (1884).

Catoscopium nigratum (Hed.) Brid.

C. P. H.

NOTE—MOLLUSCA.

Viviparus contectus near Askern.—With regard to the above, which, in the programme issued for the benefit of the meeting of the Yorkshire Naturalists' Union in June, 1893, was reported to be extinct in the district, but was found by Mr. W. J. Clarke and myself, I am glad to be able to state that it is pretty plentifully distributed thereabouts, and through the kindness of the Rev. F. H. Allen, of Moss, I have been enabled to procure a sufficient number, without any risk of exterminating them in their original quarters, for the purpose of turning down in some of the waters in this district, in the hope that they will increase and multiply, and form an interesting addition to our local molluscan fauna.—OXLEY GRABHAM, M.A., Croxton Villa, Scarborough, May 7th, 1894.

NOTE—COLEOPTERA.

Campylus linearis near Doncaster.—On Good Friday (March 23rd, 1894), while in Edlington Wood, I found three Elaterid larvæ in rotten wood. These were duly boxed, and on May 6th resulted in three specimens of *Campylus linearis* L. All were males. One is of the ordinary coloration, viz., with elytra testaceous. A second example has the coloration of the female, viz., with elytra black having a testaceous margin. The third is precisely like No. 1 so far as coloration goes, but it is rather curiously deformed, lacking, as it does, the fourth and fifth tarsal joints, and, of course, claws. The apical joints of the antennæ, too, are pale testaceous, as are the three tarsal joints. According to Fowler and Cox, the species is rather common and generally distributed, and therefore hardly deserving record except for the cross coloration and the curious deformity of the specimens above described.—E. G. BAYFORD, Barnsley, May 9th, 1894.

NOTE—FISHES.

Scorpæna dactyloptera and Sebastes viviparus off the Coast of Northumberland.—A fine specimen of this rare fish was captured in the net of the steam trawler 'Blackwatch,' about 12 miles off the Northumberland Coast between Blyth and Newbiggin, on May the 8th. It is rather larger than the example figured by Mr. Eagle Clarke, being about $6\frac{3}{4}$ inches or 172 mm. in length. It was sent by Capt. Henry Whitfield to Mr. J. F. Spence, Mayor of Tynemouth, who kindly presented it to the Newcastle Museum. When brought to Mr. Spence it was quite lively, and swam freely about in a few gallons of sea-water in which it was placed. It was of a brilliant deep carmine colour on the upper part of the body, gradually shading off to nearly pure white beneath. Through the kindness of Mr. W. Eagle Clarke I was able to compare it with the excellent description and figure given of the Redcar specimen in the Proceedings of the Royal Physical Society of Edinburgh, vol. 12, July 1893.

Last year a specimen of another rare fish was sent to the Museum by Mr. Phillips of Newcastle, which had been caught by one of the trawlers some distance out in the North Sea. It was sent for a Norwegian Haddock which it somewhat resembled, but differed much in shape and had a black spot on the upper part of the operculum, and agrees as far as I have been able to compare it with the description of *Sebastes viviparus*.—RICHARD HOWSE, Museum, Newcastle-on-Tyne, May 24th, 1894.

NOTE—ORNITHOLOGY.

Eccentric Nesting of Pheasant.—A singular instance of eccentricity in the choice of a site for a nest has occurred here this season. A Pheasant (*Phasianus colchicus*) has laid fifteen eggs in a Wood Pigeon's nest, in a tall tree, between twenty and thirty feet from the ground. The eggs have been taken by the keeper and placed under a hen, as there was considerable doubt whether the young ones would reach the ground in safety.—R. A. SUMMERFIELD, North Stainley, Ripon, May 18th, 1894.

THE MIGRATION OF THE YELLOW WAGTAIL.

F. B. WHITLOCK,

Beeston, Notts.

I SHOULD just like to add a few final words to this discussion, as Mr. Cordeaux in his latest contribution somewhat shifts his ground, and also attempts to saddle me with his own theory as to the origin of these flights of Yellow Wagtails. He writes—‘There is no necessity for Mr. Whitlock to bring the main colony of *M. raii* from their summer home on the Lower Volga and basin of the Caspian, across Europe and the North Sea.’ This is just what he does himself in his ‘Zoologist’ paper, and is the very point I tried to refute. His latest suggestion that *occasional* flights come over from Holland and Belgium is far more probable, but he forgets that in the first instance he described the migration as *normal*.

When considering the movement of a single species, one naturally takes a more narrow view of migration; but to argue that because the Bluethroat, with which the Yellow Wagtail has very little in common, may cross a large tract of country without being seen, that therefore the present species in like manner might escape observation en route, is almost certain to lead to error. It is well known that birds in different parts of their ranges have different habits. Take the Dotterel (*Eudromias morinellus*) for instance. This species is stated by Mr. Seebohm to probably cross the whole of Europe to its northern breeding grounds in a single flight. Now in our own country it is observed in many districts resting, in small flocks, before travelling further north, for several days at a stretch. The same is probably true of the Bluethroat in other regions.* The Yellow Wagtail, too, unlike the Bluethroat, is regularly observed on migration on the east coast of Spain, thus plainly showing that it migrates more leisurely than the former species. Indeed, it has only half the journey to perform. Mr. Caton Haigh suggests that *M. raii* probably travels by night; this may be true to a certain extent, but his own note of flocks coming in from the east *all day* rather militates against this opinion.

With regard to my not finding large flocks of *M. raii* near Skegness in September 1891, I argued nothing from this, as I considered I was a little too south of the probable track, and if Mr. Cordeaux will refer to my paper again, he will see that I merely mentioned the matter in passing.

* The ‘Bluethroat’ is said to come in considerable numbers to a certain part of Baden. As the writer does not state that they breed there I presume he refers to the Arctic form, on migration (Douglas, *Zoologist*, p. 168, vol. xviii).

I agree with Mr. Cordeaux that birds do not always take the most direct routes to and from their summer and winter quarters (I have observed that here), and that the lines of migration followed are often inexplicable or most difficult to understand. It was in the hope of elucidating the history of the movements of *M. raii* that I commenced this discussion, and I thank Mr. Cordeaux for the help he has rendered.

[We think the discussion might fittingly terminate here.—EDS. NAT.]

NOTES—ORNITHOLOGY.

Pied Flycatcher in the Dales.—In a recent walking tour through some of the Yorkshire Dales, I was pleased to notice the abundance of *Muscicapa atricapilla*. I know of several localities in the county where these beautiful little birds are to be found sparingly every year; but in one secluded glen in the district above mentioned I came across fully a dozen pairs. I put one hen bird off a recently-completed nest, but it contained no eggs.—OXLEY GRABHAM, M.A., Croxton Villa, Scarborough, May 20th, 1894.

Flamborough Bird Notes.—Since last writing I have seen several more of our summer migrants. On April 17th the first Swallow (*Hirundo rustica*) arrived, and on April 18th the Redstart (*Ruticilla phoenicurus*). The latter is very scarce with us this season; I have only seen some three or four, and not one Blackstart (*R. tithys*). On April 19th I observed the Whitethroat (*Sylvia cinerea*). Since May has come in others have come under my notice, including the Swift (*Cypselus apus*), the Pied Flycatcher (*Muscicapa atricapilla*), and one Hooded Crow (*Corvus cornix*) that had been left alone on the headland.—MATTHEW BAILEY, Flamborough, May 18th, 1894.

East Riding Bird Notes.—Two fine specimens of the Bittern (*Botaurus stellaris*), once somewhat common in Britain, but now one of our rare visitors, were killed near Beverley last winter; one on the 23rd December, and the other on January 3rd. They have been carefully preserved by Mr. Stuart, of Beverley. It is regrettable that these birds should be slaughtered as soon as they arrive on our coasts.

A small flock of Dotterel (*Eudromias morinellus*), in fine breeding plumage, was seen near Market Weighton yesterday, May 18th, and I regret to say some of them were shot; these I have seen in the flesh to-day. These birds would no doubt be passing on their way to their nesting haunts (perhaps the Cumberland hills), and I think the fact of their being found in the East Riding at such a late date results from the cold weather we have been experiencing during the past few weeks, and which appears to be growing in intensity. There was snow to-day. Another sign of the cold spring is that the Kittiwakes (*Rissa tridactyla*) at Speeton Cliffs are only just commencing to lay, although in some respects it is a forward season.—E. G. POTTER, York, May 19th, 1894.

Note on the Cuckoo.—On June 5th, 1886, I found a Robin's nest at Prestbury, near Macclesfield, containing five eggs, one of which was a Cuckoo's. The nest was in a bank in a narrow lane. On May 30th, 1887, in the same bank and not ten yards from the nest of the previous year, I found another Robin's nest containing a young Cuckoo (*Cuculus canorus*) a day or two old apparently. Three or four Robin's eggs were lying on the bank near the nest. These on investigation proved to be very much incubated. Two year later, May 21st, 1889, I again found a Robin's nest in the same bank, but about a hundred yards higher up the lane, containing five eggs, one a Cuckoo's. One cannot help thinking that this is something more than mere coincidence.—F. BROWNSWORD, Heaton Moor, Stockport, May 15th, 1894.

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Papers and Records published with respect to the Natural History and Physical Features of the North of England.

BIRDS, 1891.

THE present instalment has been compiled and arranged by

W. DENISON ROEBUCK, F.L.S.

The previous instalments of the Bibliography of Birds have appeared as follows:—

For 1884—in ‘Naturalist,’	March and April 1885,	pp. 185-200,
	continued in May 1885,	„ 223-227.
„ 1885—	„ September 1886,	„ 260-272.
„ 1886—	„ May and June 1889,	„ 145-175.
„ 1887—	„ August and Sept. 1889,	„ 249-270.
„ 1888—	„ June and July 1890,	„ 177-198.
„ 1889—	{ April and May 1892,	„ 121-136.
	{ Sept. and Oct. 1892,	„ 281-291.
„ 1890—	„ April and May 1893,	„ 115-137.

The counties and vice-counties of which cognizance is taken are the following, as named and numbered in the Watsonian scheme:—

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 ; 70, Cumberland ; and 71, Isle of Man.

The remarks prefixed to the Bird-Bibliography for 1886 (published in the ‘Naturalist’ for May 1889, p. 145) are equally applicable to the present instalment.

ANON. [signed ‘Scolopax’]. Westmorland, ‘Yorkshire.’

Weight of Solitary Snipe [(*Gallinago major*); mentioning a Yorkshire instance of 8½ ozs., and a Westmorland one of 9 ozs., both in 1875]. Land and Water, Feb. 1st, 1890, p. 138.

ANON. [signed ‘Art o Fowling’]. Lanc. S. or W.

Shore Shooting on the Ribble [on Dec. 2nd, 1889; *Anas*, *Vanellus*, *Gallinago caelestis*, *Numenius arquata*, *Aegialitis hiaticula*, *Mareca*, *Querquedula crecca*, *Limnocyptes*, *Tringa alpina*, *Calidris*, *Tringa minuta*, *T. subarquata*, *Totanus calidris*, *Strepsilas*, *Squatarola*, *Larus canus*, *L. ridibundus*, *Hydrochelidon nigra*, *Tringa canutus*, *Tringoides*, *Sturnus*, *Turdus pilaris*, *T. iliacus*, and *Crex*, all noted by their English names]. Land and Water, April 12th, 1890, p. 471.

ANON. [Signed ‘K. O.’]. Cheviotland.

Young Partridge [*Perdix cinerea*] in January [a brood found at Longframlington, Northumberland, in the middle of Jan. 1891]. Field, Feb. 7th, 1891, p. 200.

- ANON. [signed 'South Notts.']. Notts.
Habits of Golden Plover [(*Charadrius pluvialis*) and of *Vanellus* in South Notts stated, with a request for information on certain points]. Field, March 28th, 1891, p. 449.
- ANON. [signed 'P. J. S.']. York N.E.
Rooks' [*Corvus frugilegus*] **eggs up the Foss** [28th April, 1891]. N.H.J., May 15th, 1891, p. 71.
- ANON. [signed 'G. D. (Astle, Chelford)']. Cheshire.
The Weather and the Swallows [at Astle near Chelford, Cheshire; great mortality amongst *Hirundo* and *Chelidon*]. Field, June 6th, 1891, p. 859.
- ANON. [signed 'C. H. S.']. Cheshire.
Abnormal Nest of Swallows [(*Hirundo rustica*), at a small country station near Rock Ferry, Cheshire; under eaves, but not a Martin]. Field, Aug. 15th, 1891, p. 284.
- ANON. [signed 'Ed.']. Westmorland, Cumberland.
Dispersal of Oak Trees by Wild Ducks [being referred to by a correspondent, Editor mentions that a similar dispersal by *Corvus frugilegus* is mentioned in Robinson's 'Nat. Hist. Westmorland and Cumberland,' 1709, p. 97]. Zool., Sep. 1891, p. 351.
- ANON. [signed 'T. D. (York)']. 'York.'
Late Stay of Swifts [(*Cypselus apus*); one at York, Sep. 13th, amongst a number of Swallows]. Field, Sep. 19th, 1891, p. 465.
- ANON. [signed 'H. G. (Yorkshire)']. ? York Mid W.
Shore Birds [Dunlins (*Tringa alpina*)] at a High Altitude [on the edge of a tarn 1,400 feet above sea-level, two shot Oct. 5th; evidently Malham Tarn]. Field, Oct. 10th, 1891, p. 546.
- ANON. [signed 'Doctor Gregory']. Lanc. W.
[Birds noted at] Nickie Nook [and about the Fylde Water Company's Reservoir, Lancashire; *Ruticilla phaniceus*, *Lynx torquilla*, *Sylvia cinerea*, *S. curruca*, *Phylloscopus trochilus*, *Ph. rufus*, *Ph. sibilatrix*, *Sylvia atricapilla*, *Locustella*, *Acrocephalus phragmitis*, *Tinnunculus*, *Tringoides*, *Falco aesalon*, *Pratincola rubetra*, *Columba ænas*, *Larus ridibundus* (gullery), *Turdus torquatus*, *Lagopus scoticus*, *Cinclus*, *Ardea cinerea*, and *Passer domesticus*]. N. H. J., Oct. 15th, 1891, pp. 117-119.
- ANON. [signed 'T. D.']. York N.E.
White Martins [*Chelidon urbica*] in Yorkshire [a pair killed at a shot on a farm near Haxby some years ago, now in possession of Henry Riley, York; on Oct. 12th, 1891, a white one seen near York, in company with immense numbers of the typical form and a few *Hirundo*]. Field, Oct. 17th, 1891, p. 582.
- ANON. [not signed]. York N.E.
Swallows [*Hirundo rustica*] at Great Ayton seen every day . . . to the 23rd of October [1891]. N. H. J., Nov. 15th, 1891, p. 154.
- ANON. [signed 'H.']. York N.E.
[*Plectrophanes nivalis*] At Close Quarters [on Sandsend cliffs, Yorkshire, last week of October]. N. H. J., Nov. 15th, 1891, p. 154.
- ANON. [signed 'W. H. H. (Draycott)']. Derbyshire.
Grey Phalarope [*Phalaropus fulicarius*] in Derbyshire [one shot at Draycott, near Derby, 17th ult.]. Field, Nov. 28th, 1891, p. 824.
- ANON. [signed 'Ed.']. Linc. S., Lanc. S.
Swallow's Nest on Hanging Hook [in Bedfordshire; Editor repeats records of nests of *Hirundo rustica* in abnormal situations at Sibsey, near Boston, and at Maghull, near Liverpool]. Field, Dec. 5th, 1891, p. 882.

- E[RNEST]. A[NNE]. Northumberland S.
Blackbird Hawking with a Merlin [(*Falco aesalon*) near Blenkinsopp Castle, Northumberland; sport with *Turdus merula* and *T. torquatus*]. *Field*, Sep. 26th, 1891, p. 501.
- O. V. APLIN. Notts, Linc. N., Cheshire.
The Distribution in the British Islands of the Spotted Crake [*Porzana maruetta*] . . . Supplementary Notes [from Notts (Whitlock), Cheshire (E. Coomber), Lincolnshire North (G. H. Caton-Haigh), and references for last-named county to *Rallus*, *Gallinula*, *Crex*]. *Zool.*, March 1891, pp. 88-89.
- H. T. ARCHER. Northumberland S.
White-tailed Eagle [*Haliaeetus albicilla*] in Northumberland [a female shot at Eshott, Dec. 1st, 1890; details given]. *Nat.*, Jan. 1891, p. 6.
- J. BACKHOUSE. Durham.
In Memoriam.—Nicholas Wearmouth [with notes of *Archibuteo lagopus* and *Calidris* shot close to Newbiggin village, and of eggs of *Lanius collurio* from nearer Middleton-in-Teesdale]. *Nat.*, May 1891, p. 148.
- J. BACKHOUSE. York Mid W.
Hawfinches [*Coccothraustes vulgaris*] near Harrogate [three trapped, July 1891, at Wormald Green]. *Nat.*, Oct. 1891, p. 297.
- MATTHEW BAILEY. York S.E.
Flamborough Notes [anent appearance in numbers of *Otocorys*]. *Nat.*, Jan. 1891, p. 12.
- MATTHEW BAILEY. York S.E.
Flamborough Bird-Notes [anent movements of *Uria grylle*, *Mergus serrator*, *M. merganser*, *Cygnus*, *Plectrophanes*, *Fringilla montifringilla*, and *Lomvia troile*]. *Nat.*, March 1891, p. 79. [Anent arrival of *Motacilla lugubris*, *Ruticilla phoenicurus*, and *R. titys* (this last not seen before for nearly ten years); and movements of *Corvus cornix* and *Scolopax rusticola*]. *Nat.*, May 1891, p. 139. [Anent arrival of *Hirundo*, *Turtur*, *Cuculus*, *Sylvia cinerea*, *S. curruca*, *Ruticilla phoenicurus*, *R. tithys*, *Saxicola oenanthe*, *Muscicapa atricapilla*, *Regulus cristatus*, and *Pratincola rubicola*, and departure of *Corvus cornix* and *Scolopax rusticola*; dates given]. *Nat.*, June 1891, p. 182. [Anent great number of *Lomvia troile*, *Alca torda*, *Fratercula*, *Rissa*, *Sterna*, *Stercorarius*, *Sula*, a white *Lomvia*, a flock of *Bernicla canadensis*, and anent *Corvus cornix* staying through the summer]. *Nat.*, Nov. 1891, p. 351. [Anent movements or occurrence of *Scolopax rusticola*, *Corvus cornix*, *C. monedula*, *Turdus pilaris*, *T. iliacus*, *Plectrophanes nivalis*, *Otocorys*, *Lanius excubitor*, *Falco peregrinus*, *Haliaeetus albicilla*, *Ampelis garrulus*, *Hirundo* (18th Nov.), *Rissa*, and *Xema sabinii*]. *Nat.*, Dec. 1891, p. 372.
- E. T. B[ALDWIN]. Furness or Lanc. W.
Rooks [*Corvus frugilegus*] at Railway Stations [in North Lancashire, trying to force open grease-boxes of truck-wheels to feed on the grease]. *Field*, Jan. 24th, 1891, p. 120.
- E. T. BALDWIN. German Ocean.
Hooded Crow [*Corvus cornix*] on Board Ship [voyaging from off Denmark to Hull]. *Nat.*, July 1891, p. 214.
- GEO. BARNARD. York S.E.
An Albino Swallow [(*Hirundo rustica*) shot at Mappleton]. *Field*, Sep. 5th, 1891, p. 396.
- GREGORY O. BENONI. Linc.
Ducking: a Lincolnshire Sketch [describing a visit to an unnamed Lincolnshire decoy, famous for Teal (*Querquedula crecca*), and giving an extract from the 1578 Manor Rolls of Scotter or Scawthorpe forbidding the inhabitants from fishing or ducking in the Lord's waters; mention made of *Anas boschas*, *Fuligula ferina*, *Mareca*, *Spatula*, *Chaulelasmus*, *Querquedula crecca*, and *Dafila*]. *Sci. Goss.*, Jan., Feb., and March 1891, pp. 17-18, 39-40, and 50-52.

- F. BOYES. York S.E.
Supposed Snow Geese [*Chen albatrus*] in **East Yorkshire** [three white birds, not Swans, seen by a friend, 15th Jan., 1891, flying over Beverley; Editor suggests that they were *Sula bassana*]. *Field*, Jan. 31st, 1891, p. 162. [But see under Henry Sharp].
- F. BOYES. York S.E.
Dunlin [*Tringa alpina*] with **Cockle** attached to its **Bill** [shot at Spurn]. *Field*, Jan. 31st, 1891, p. 162.
- F. BOYES. York S.E.
Supposed Occurrence of Snow Geese [*Chen albatrus*] in **Yorkshire** [near Beverley; arguing against Editor's suggestion that they were Gannet, partly on the ground of that bird in adult plumage never reaching so far inland as Beverley]. *Field*, Feb. 7th, 1891, p. 200.
- F. BOYES. York S.E.
Woodcock [*Scolopax rusticola*] in **Snow** [an interesting account of the tracks of one observed near Beverley]. *Field*, May 9th, 1891, p. 675.
- F. BOYES. York S.E.
Early Arrival of Fieldfares [(*Turdus pilaris*); one flushed Sep. 11th, 1891, on the Wolds near Beverley]. *Field*, Sep. 19th, 1891, p. 465.
- F. BOYES. York S.E.
Late Nesting of the Stockdove [(*Columba oenas*) at Beverley; dates given, Sep. 17th]. *Field*, Sep. 19th, 1891, p. 465.
- F. BOYES. York S.E.
Autumn Migration of Thrushes [near Beverley; *Turdus iliacus* scarcer, *T. pilaris* more abundant than usual, this autumn]. *Field*, Nov. 28th, 1891, p. 824.
- F. BOYES. York S.E.
Spotted Redshanks [*Totanus fuscus*] in **East Yorkshire** [a small flock seen, four shot, on Sunk Island, on the Humber]. *Field*, Nov. 28th, 1891, p. 824.
- F. BOYES. York S.E.
Migration of the Dabchick [(*Tachybaptus fluviatilis*) which reappeared in 1891 on the same pond on the Yorkshire Wolds at Walkington where it appeared in 1890]. *Field*, Nov. 28th, 1891, p. 824.
- HENRY S. BOYNTON. York S.E.
Protection of Rare Birds [recording the flushing of a *Botaurus stellaris* twice on 16th Jan., 1891, but not shooting it, while covert-shooting in the East Riding]. *Field*, Jan. 31st, 1891, p. 162.
- W. D. B[RAITHWAITE]. York S.W.
Ackworth N. H. Excursions [to Frickley Park and Frickley Common; nest of *Ruticilla phoenicurus*]. *N. H. J.*, Sep. 15th, 1891, p. 105.
- R. G. BROOK. Lanc. S.
Bittern [*Botaurus stellaris*] near **St. Helens, Lancashire** [one shot 31st Dec., 1890, at Ramfold Farm near Eccleston]. *Nat.*, May 1891, p. 139.
- E. BUTTRESS. Notts.
Manx Shearwater [*Puffinus anglorum*] inland in **Nottinghamshire** [caught by a dog at Treswell, near Retford, Sep. 1891]. *Zool.*, Nov. 1891, p. 428.
- L. BUTTRESS. Notts.
Little Auk [*Mergulus alle*] inland in **Notts.** [shot on Sherwood Forest, near Retford, mid-January 1891]. *Zool.*, May 1891, p. 194.
- J. J. CAMBRIDGE. Durham.
The Kingfisher [*Alcedo ispida*] at **Hartlepool** [one of a pair shot, Dec. 1890; writer consoled himself for shooting it by the idea that if he did not some one else would!!! How benevolent!]. *Brit. Nat.*, Feb. 1891, p. 31.

- M. N. CARR. Cumberland.
Migrant Table, No. 15, 1891 [giving for Bolton, Cumberland, dates of arrival of *Saxicola*, *Hirundo*, *Cuculus*, *Crex*]. N. H. J., Oct. 15th, 1891, p. 136.
- A. ST. CLAIR CARNEGIE. Linc. N., York Mid W.
Reeves Pheasant [*Phasianus reevesi*] in Lincolnshire [suggesting that the one recorded by John Cordeaux may be one turned out by John Harrison in Wilstrop Wood some time ago]. Field, June 27th, 1891, p. 981.
- BASIL J. CARTER. York N.W.
Chil Bunting [*Emberiza cirrus*] Nesting near Masham [in Aug. 1891; particulars given]. Nat., Dec. 1891, p. 364.
- JAMES CARTER. York N.W.
Habits of the Water Ouzel [(*Cinclus aquaticus*) as noted at Masham during the severe weather]. Field, March 7th, 1891, p. 350.
- J. E. CLARK [and four others]. 'York.'
Migrant Table, No. 15, 1891 [giving for York, dates of arrival of *Phylloscopus rufus*, *Ph. trochilus*, *Hirundo*, *Cotile*, *Anthus trivialis*, *Pratincola rubetra*, *Motacilla raii*, *Sylvia atricapilla*, *Chelidon*, *Ruticilla phoenicurus*, *Cuculus*, *Sylvia cinerea*, *Acrocephalus phragmitis*, *Crex*, *Cypselus*, and *Muscicapa grisola*]. N. H. J., Oct. 15th, 1891, p. 136.
- W. EAGLE CLARKE [not signed]. York N.E., Linc. N.
[Record of two Additions to the British Avifauna; *Turtur orientalis* near Scarborough, Oct. 23rd, 1889 (J. Backhouse); and *Coracias indicus* near Louth, Lincs., October 8th, 1883; latter originally recorded as *C. garrula* in the 1883 Migration Report]. Scott. Nat., Jan. 1891, pp. 46-47.
- W. E. CLARKE. York Mid W.
In Memoriam.—John Harrison [with a note that the *Tinnunculus cenchris* shot at Wilstrop is now in York Museum]. Nat., June 1891, p. 186.
- WILLIAM J. CLARKE. York N.E.
Red-Necked Grebes [(*Podiceps griseigena*) at Scarborough [notes of 28 specimens; and of seven at Filey, obtained during January 1891]. Zool., May 1891, p. 193.
- WILLIAM J. CLARKE. York N.E.
Spotted Crake [*Porzana maruetta*] at Scarborough [one picked up dead on the railway, April 29th, 1891]. Zool., July 1891, p. 275.
- W. J. CLARKE. York N.E.
Supposed Occurrence of the Kentish Plover [*Aegialitis cantiana*] at Scarborough [two shot Sep. 12th at Cayton Bay; Editor suggests that the identification is not perfectly proved]. Zool., Oct. 1891, p. 397.
- WM. J. CLARKE. York N.E.
White-tailed Eagle [*Haliaeetus albicilla*] at Scarborough [one shot on 7th Nov., 1891, at Scalby Ness; is being preserved for the Scarborough Museum; another seen and particulars given]. Zool., Dec. 1891, p. 470.
- W. J. CLARKE. York N.E.
Spotted Crake [*Porzana maruetta*] at Scarborough [one killed against telegraph-wires in early October, the second recent occurrence]. Zool., Dec. 1891, p. 473.
- H. S. CLAYE. Cheshire.
Little Crake [*Porzana parva*] in Cheshire [one killed Oct. 3rd, 1891, by telephone-wires running under Bosley Cloud, Staffordshire border of Cheshire]. Field, Oct. 17th, 1891, p. 582.
- F. CLEMESHA. Lanc. S.
[Bird-Notes about Penketh; *Motacilla raii*, *Corvus monedula*, and *Sturnus*]. N. H. J., June 15th, 1891, pp. 88-89.

F. CLEMESHA.

Lanc. S.

[Birds noted about Penketh; from Lingley Lane, *Parus palustris*; Bold Park, *Anas boschas*; Hough Green, *Larus marinus*; Penketh, *Motacilla raii*; Cheshire, eggs of *Lagopus scoticus* and *Corvus frugilegus*; Cuerdley Marsh, *Tringoides*]. N. H. J., May 15th, 1891, p. 70.

E. M. COLE.

York S.E.

Pheasant [*Phasianus colchicus*] Nesting in Roadway [near Wetwang, Yorkshire Wolds; nest of 7 or 8 eggs found May 6th on the road margin, abandoned, but found still unbroken June 26th]. Field, July 4th, 1891, p. 38.

E. MAULE COLE.

York S.E.

Pheasant Nest by Roadside [at Wetwang, on the Wolds; the confiding *Phasianus* had laid eggs in a public roadway, 6th May, which were still intact June 26th]. Nat., Sep. 1891, p. 282.

JOS. COLLINS.

Lanc. S., Cheshire.

The Bittern [*Botaurus stellaris*] near Warrington [one shot at Longford, Dec. 7th, 1890; one shot 10 years ago on Sutton Rifle-range, near St. Helens; one at Thelwall, 1854; noted with particulars]. Brit. Nat., Feb. 1891, p. 31.

JOHN CORDEAUX.

York S.E., Mid W.

[Review of] the Birds of Oxfordshire [with allusions to the migration of *Muscicapa atricapilla* and *Ruticilla phœnicurus* at Spurn and Flamborough, and to 'Norman Thrush' as a Craven name for *Turdus viscivorus*]. Midl. Nat., Jan. 1891, pp. 6-7.

JOHN CORDEAUX.

Linc. N., York S.E.

Ornithological Notes from the Humber District in the Autumn of 1890 [anent scarcity or absence of *Asio accipitrinus*, *Lanius excubitor* and *Regulus cristatus*, and the occurrence of *Saxicola œnanthe*, *Tringoides*, *Squatarola*, *Tringa canutus*, *T. alpina*, *Ruticilla phœnicurus*, *Phylloscopus sibilatrix*, *Charadrius pluvialis*, *Totanus canescens*, *Machetes*, *Tringa subarquata*, *Limosa lapponica*, *Emberiza miliaria*, *Regulus cristatus*, *Tringa minuta*, *Totanus fuscus*, *Stercorarius crepidatus*, *Upupa epops*, *Turdus musicus*, *Erithacus*, *Alauda arvensis*, *Anthus obscurus*, *Limnocryptes*, *Corvus cornix*, *Botaurus stellaris*, *Mergulus alle*, *Turdus pilaris*, *T. viscivorus*, *T. merula*, *T. iliacus*, *Plectrophanes nivalis*, *Fringilla montifringilla*, *Scolopax rusticola*, *Phalaropus hyperboreus*, *Otocorys*, *Hirundo*, *Garrulus*, *Calcarius lapponicus*, *Tadorna cornuta*, *Cygnus musicus*, *Ligurinus*, *Fringilla cœlebs*, *Emberiza schœniclus*, both species of *Passer*, *Linota flavirostris*, *Alcedo*, *Archibuteo*, *Harelda*, *Mergus merganser*, *M. albellus*, *Colymbus septentrionalis* and *Cygnus bewickii* in Holderness and North Lincolnshire; localities, dates and full particulars, with notes on migratory movements]. Nat., Jan. 1891, pp. 21-26.

JOHN CORDEAUX.

Linc. N.

Wild Geese and Swans in Lincolnshire [noting *Anser albifrons*, *A. brachyrhynchus*, *A. segetum*, *Cygnus fesus* and *C. bewickii*; the geese were few considering the severe weather, but it is a great swan year]. Field, Jan. 10th, 1891, p. 59.

JOHN CORDEAUX.

Linc. N.

Bewick's Swan [*Cygnus bewickii*] in Lincolnshire [a herd observed at close quarters at Great Cotes, Jan. 17th, 1891]. Field, Jan. 24th, 1891, p. 120.

JOHN CORDEAUX.

Linc. N., York S.E.

Notes from the Humber [anent *Plectrophanes nivalis* (great numbers), *Turdus iliacus*, *T. musicus* (Spurn), *T. pilaris*, *Otocorys* (abundant), *Anthus obscurus*, *Fringilla montifringilla*, *Linota cannabina*, *F. cœlebs*, and *Ligurinus* (all at Spurn), *Cygnus musicus*, *C. bewickii*, *Bernicla brenta*, *Anas boschas*, *Mareca*, *Fuligula ferina*, *Clangula glaucion*, *Haliaëtus albicilla*, *Limosa*, *Scolopax*,
Naturalist,

Asio accipitrinus, *Tringa canutus*, *Squatarola*, *Numenius arquata*, *Larus leucopterus*; prices for wild-fowl in 1841 quoted; *Corvus monedula* in Kilnsea Church; all the notes are for North Lincolnshire where not specified for Yorkshire]. Field, Feb. 21st, 1891, p. 256.

JOHN CORDEAUX.

York S.E.

Great Grey Shrike [*Lanius excubitor*] at Spurn [correcting a misprint in a former record made, Zool. 1877, pp. 10 and 59]. Zool., Ap. 1891, p. 154.

JOHN CORDEAUX.

Linc. N.

Reeves' Pheasant [(*Phasianus reevesi*), a fine male captured alive on the Humber embankment, Stallinborough parish, supposed to have flown across the Humber; writer knows of no possible place on the Lincolnshire side from which it could be an escape]. Field, June 6th, 1891, p. 859.

JOHN CORDEAUX.

Linc. N.

Bird-notes from North Lincolnshire, March, April, May, 1891 [anent *Plectrophanes nivalis*, *Querquedula crecca*, *Fuligula ferina*, *Motacilla alba*, *M. lugubris*, *Charadrius pluvialis*, *Corvus cornix*, *Regulus cristatus*, *Hirundo*, *Cuculus*, *Tringa canutus*, *Saxicola oenanthe*, *Pratincola rubetra*, *Sylvia cinerea*, *Phylloscopus trochilus*, *Motacilla raii*, *Chelidon*, *Numenius phaeopus*, *Endromias*, *Scolopax rusticola*, *Cypselus apus*, *Sylvia salicaria*, *Squatarola*, *Limosa lapponica*, and *Totanus calidris*, and their movements]. Nat., July 1891, pp. 209-210.

JOHN CORDEAUX.

York S.E.

Icterine Warbler [*Hypolais icterina*] at Easington in Holderness: an addition to the Yorkshire avifauna [obtained 28th May; details of this and notes of previous occurrences in Britain given; specimen now in Edinburgh Museum]. Nat., Aug. 1891, p. 241.

JOHN CORDEAUX.

York S.E.

The Icterine Warbler [*Hypolais icterina*] in Holderness [giving particulars of an adult male obtained at Easington, 28th May, and now in the possession of W. Eagle Clarke, at the Edinburgh Museum]. Zool., Aug. 1891, p. 308.

JOHN CORDEAUX.

Linc. N.

Reminiscences of the Kite [*Milvus iclinus*] in Lincolnshire [taken from the lips of an old man, 77 years old, who well remembers how the 'gleade' was very common in the woods near Louth, and the ravages they committed in farmyards]. Zool., Aug. 1891, p. 313.

JOHN CORDEAUX.

North Sea.

Variety of the Common Heron [(*Ardea cinerea*) caught by a fishing-smack in the North Sea, and brought into Grimsby]. Zool., Aug. 1891, p. 316.

JOHN CORDEAUX.

York S.E. and N.E., Linc. N.

Rare British Birds in the Humber District [giving particulars of the occurrence of *Turdus varius* near Withernsea and Pocklington, *Saxicola deserti* at Easington, *Ruticilla tithys* at Flamborough, *Cyanecula suecica* (several) and *Sylvia nisoria* at Spurn, *Regulus ignicapillus*, *Phylloscopus superciliosus*, and *Hypolais icterina* at Easington, *Cinclus melanogaster* near Louth and at Stallinborough, *Anthus richardi* at Tetney, *Muscicapa parva* at Scarborough, *Loxia bifasciata* at Easington and at South Cockerington, *Emberiza cirrus* at Great Cotes and Grainsby in mid-winter, *E. hortulana* at Great Cotes and at Easington, *E. cioides* at Flamborough, *E. rustica* at Easington, *Calcarius lapponicus* at Tetney, at Grimsby, and North Cotes, *Otocorys alpestris* as a regular visitor, *Sturnus unicolor* near Howden, *Pastor roseus* near Spurn, *Nucifraga caryotactes* at Marsh Chapel, *Coracias indicus* at Muckton near Louth, *Merops apiaster* at Tetney Haven, *Nyctala tengmalmi* near Saltfleet Haven, at Holmpton, and near Scarborough, *Athene noctua* off Scarborough and near Seamer, *Bubo ignavus* at Easington, *Aquila chrysaetos* in Normanby Park, *Haliaetus albicilla* at Spurn and Kilnsea, *Nycticorax griseus* at Tetney, *Ardetta minuta* at Goole, *Ciconia alba* at Scarborough and near Hornsea, *Plegadis falcinellus* at Skegness (two), *Chen hyperboreus* near

Beverley, *Turtur orientalis* near Scarborough, *Porzana bailloni* at Holmpton, *Ægialitis cantiana* on Lincolnshire coast, *Macrorhamphus griseus* near Tetney, *Tringa maculata* near Kilnsea, *T. temminckii* near Lincoln and at Spurn, *Totanus fuscus* as a regular immigrant, *Xema sabinii* at Flamborough (several times), *Pagophila eburnea* at Grimsby and Cleethorpes, and *Podiceps nigricollis* near Lincoln, at Spurn, and off Scarborough]. *Zool.*, Oct. 1891, pp. 361-367.

J. C[ORDEAUX].

York N.E.

Ornithology at Danby-in-Cleveland [being Review of J. C. Atkinson's 'Forty Years in a Moorland Parish'; notes as to *Turdus torquatus*, *T. merula*, *T. varius*, *Sturnus*, *Cinclus*, *Alcedo*, *Dendrocopus major*, *Gecinus*, *Corvus corax*, *Strix flammea*, *Syrnium aluco*, *Falco æsalon*, *Tinnunculus*, *Columba ænas*, *Tetrao tetrax*, *Lanius excubitor*, *Gallinago cælestis*, etc.]. *Nat.*, Oct. 1891, pp. 307-309.

JOHN CORDEAUX.

York S.E.

Probable Occurrence of the Snowy Owl [*Nyctea scandiaca*] in Holderness [one seen 27th Sept. near Easington; particulars given; *Falco tinnunculus*, *Regulus cristatus*, and *Lanius excubitor* also noted]. *Field*, Oct. 3rd, 1891, p. 509.

JOHN CORDEAUX.

York S.E., Linc. N.

Late Stay of Swifts [(*Cypselus apus*): recapitulation of numerous late dates, even to Dec. 1st, 1883, in North Lincolnshire and South-East Yorkshire]. *Field*, Oct. 31st, 1891, p. 655.

JOHN CORDEAUX.

York S.E., Linc. N.

Spring Migration in the Humber District [anent *Saxicola ænanthe* and *Ruticilla phænicurus* near Spurn, *Charadrius pluvialis*, *Tringa alpina*, *Squatarola*, *Limosa*, *Numenius arquata*, *Tringa canutus*, *Corvus cornix*, *Turdus pilaris*, and *Regulus cristatus* on the Lincolnshire coast; *Regulus* at Spurn; *Hirundo*, *Motacilla raii*, *Cuculus*, *Saxicola ænanthe*, *Pratincola rubetra*, *Phylloscopus trochilus*, *Sylvia cinerea*, *Numenius phæopus*, *N. arquata*, and *Eudromias* on the Linc. coast; *Larus ridibundus* at its Twigmoor gullery, with *Corvus monedula* and *Tadorna cornuta*; *Ægialitis hiaticula*, *Vanellus*, *Totanus calidris*, *Ardea cinerea*, *Larus marinus* on the Lincolnshire coast]. *Zool.*, Nov. 1891, pp. 409-415.

JOHN CORDEAUX.

York S.E.

Migration of the Barn Owl [(*Strix flammea*) as observed at the Spurn, Oct. 17th, 1891, and later dates; other records given, also of *Asio otus* and *A. accipitrinus*]. *Field*, Nov. 14th, 1891, p. 738.

JOHN CORDEAUX.

York S.E.

Late Swallows [(*Hirundo rustica*) at Kilnsea Warren, 8th Nov., 1891, in strange conjunction with a newly-arrived *Plectrophanes nivalis*]. *Field*, Nov. 14th, 1891, p. 758.

JOHN CORDEAUX.

Notts, Linc. N., York S.E.

[Four] Inland Occurrences of the Manx Shearwater [(*Puffinus anglorum*) near Retford, at Wooton near Ulceby, at Grainsby, and in Holderness, in Sept. 1891]. *Zool.*, Dec. 1891, p. 467.

JOHN CORDEAUX.

York S.E., Linc. N., Notts.

Ornithological Notes from the Humber District, in the Autumn of 1891 [anent the occurrence or movements of *Helodromas*, *Porzana maruetta*, *Numenius phæopus*, *N. arquata*, *Tringoides*, *Totanus canescens*, *Gallinago cælestis*, *Tringa canutus*, *Saxicola ænanthe*, *Tot. calidris*, *Ægialitis hiaticula*, *Squatarola*, *Sterna cantiaca*, *S. macrura*, *Calidris*, *Upupa epops*, *Hydrochelidon nigra*, *Hæmatopus ostralegus*, *Larus minutus*, *Phalaropus fulicarius*, *Tot. fuscus*, *Tringa minuta*, *Muscicapa atricapilla*, *Machetes*, *T. striata*, *Regulus cristatus*, *Vanellus*, *Lanius excubitor*, *Falco æsalon*, *Nyctea scandiaca*, *Ruticilla phænicurus*, *Alauda arvensis*, *Scolopax rusticola*, *Tachybaptus*, *Cypselus*, *Anser brachyrhynchus*, *Larus fuscus*, *L. marinus*, *L. argentatus*,

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Rissa, *Tinnunculus*, *Phalacrocorax carbo*, *Corvus cornix*, *Linota flavirostris*, *Fringilla montifringilla*, *Asio accipitrinus*, *Turdus merula*, *T. torquatus*, *Fringilla cœlebs*, *C. frugilegus*, *Lynx*, *Strix flammea*, *Sturnus*, *Plectrophanes nivalis*, *Anser cinereus*, *Puffinus anglorum* (with a note of one at Retford, Notts), *Turdus iliacus*, *T. musicus*, *T. torquatus*, *T. pilaris* (also at Thoresby and Clumber in Notts), *Passer montanus*, *Accentor*, *Parus cœruleus*, *Cygnus* sp.?, *Alauda arborea*, *Linota linaria*, *Otocorys*, *Corvus corax*, *Picus major*, *Hirundo*, and *Colymbus septentrionalis*, either on the Spurn or in North Lincolnshire; full details and dates]. *Nat.*, Dec. 1891, pp. 355-364.

JOHN C. CRELLIN.

Isle of Man.

Address by the Retiring President [of the Isle of Man N. H. S., delivered 6th April, 1891; notes on the migration of birds as observed in the island; *Turdus iliacus*, *Scolopax rusticola*, *Vanellus*, *Alauda arvensis*, *Turdus merula*, *T. musicus*, *Sturnus*; and notes of extinct Manx species, *Surnia nyctea*, *Lanius excubitor*, *Mergulus alle*, *Botaurus stellaris*, and *Coturnix*]. *Yn Lioar Manninagh*, No. 9, April-Oct. 1891, pp. 270-3.

J. H. CROSLAND.

York Mid W.

Ornithology in the holidays [*Lagopus scoticus* and *Fulica* near Harrogate; *Pyrrhula* near Brimham Rocks]. *N. H. J.*, April 15th, 1891, p. 53.

J. H. CROSLAND.

York N.E.

[Birds at Tilmire, 27th April, 1891; *Tinnunculus*, *Corvus cornix*, and *Motacilla lugubris*]. *N. H. J.*, May 15th, 1891, p. 71.

J. H. C[ROSLAND].

York N.E. and Mid W.

[Bird-notes for the Plain of York; *Motacilla raii* at Tilmire, *Phylloscopus trochilus* and *Certhia* at Askham, *Pratincola rubetra* and *Sylvia cinerea* at Bootham Stray; *Acrocephalus phragmitis*, *Sylvia cinerea*, and *Parus britannicus* at Hobmoor]. *N. H. J.*, June 15th, 1891, p. 90.

J. HERBERT CROSLAND.

York S.W.

Notes on Swallows [*Hirundo rustica*] near Cleckheaton [their departure, and a variety]. *N. H. J.*, Nov. 15th, 1891, p. 156.

R. W. CROSLAND.

York Mid W.

[*Fulica atra* at Askham, and *Larus argentatus* by the Ouse]. *N. H. J.*, April 15th, 1891, p. 53.

R. W. C[ROSLAND].

York Mid W. and S.W.

[Bird-notes; *Carduelis elegans* at Rawcliffe, and *Hirundo* on the Wharfe]. *N. H. J.*, June 15th, 1891, p. 90.

A. C. CURTIS.

York S.E.

Winter Visitors [near Hull, October 16th, 1890; *Turdus pilaris*, *T. iliacus*, *Sturnus*, and *Alauda arvensis*]. *N. H. J.*, Feb. 15th, 1891, p. 19.

FREDK. CURTIS.

Lanc. W. or S.

Shore-shooting by the Ribble [Aug. 18th, within a couple of miles of Preston, but which side of river not apparent; the notes refer to *Tringa alpina*, *Calidris*, *Ægialitis hiaticula*, *Larus ridibundus*, *L. argentatus*, *Saxicola ananthe*, *Numenius phaeopus*, *N. arquata*, *Tringoides*, *Sterna fluviatilis*, *Ardea cinerea*, *Totanus calidris*, *Alcedo*, *Tadorna cornuta*, *Gallinago caelestis* and *Hematopus*]. *N. H. J.*, Feb. 15th, 1891, pp. 1-4.

F. CURTIS.

Lanc. S. or W.

Ornithology in the Holidays [at Preston, Wild Geese; also note of habits of *Corvus frugilegus* there]. *N. H. J.*, April 15th, 1891, p. 53.

J. BURTT DAVY.

Linc. N.

Churchwardens' Accounts, Cockerington S. Mary's, North Lincolnshire [being entry in 1734 in respect of *Corvus monedula*]. *Nat.*, May 1891, p. 144.

C. B. C. de V[IT].

York N.E.

Late in Departing [from Ayton; a *Cypselus* seen on Sept. 12th, 1891]. *N. H. J.*, Oct. 15th, 1891, p. 136.

J. J. DODGSHON.

Derbyshire.

Late Stay of Swifts [(*Cypselus apus*); one observed 26th Oct., flying about Higher Buxton, Derbyshire]. Field, Oct. 31st, 1891, p. 655.

A. C. ELLIOTT.

Notts.

Grey Phalarope [*Phalaropus fulicarius*] in Notts [one killed on the Trent at Holme, near Newark, 20th Oct., 1891]. Field, Oct. 31st, 1891, p. 655.

A. H. EVANS.

Cheviotland, Northumberland, Durham.

A Preliminary List of the Birds of the Melrose District [including notes for Northumberland anent *Pratincola rubicola*, *Ruticilla phaniscurus*, *Phylloscopus sibilatrix*, *Locustella*, *Cinclus*, *Parus palustris*, *Anthus trivialis*, *Lanius collurio*, *Passer montanus*, *Linota flavirostris*, *Pastor roseus*, *Garrulus*, and *Corvus corone*, also of *Sylvia curruca* at Berwick-on-Tweed, *Oriolus galbula* at Belford, *Muscicapa atricapilla* not rare about Alnwick, *M. parva* at Berwick, *Emberiza miliaria* not rare at Wooler, inter-breeding of *Corvus corone* with *C. cornix* at Skirtnaked and at Fowberry, both near Wooler, *Alauda arborea* at Twizell, *Dendrocopus minor* at Embleton in 1845 and at Otterburn in Redesdale prior to 1881, *Gecinus* breeding in South Northumberland, and *Lynx* at Twizell and Lucker in 1836, and breeding regularly at Durham]. Scott. Nat., July 1891, pp. 103-113. [Notes on the occurrence in Northumberland of *Coracias garrula*, *Upupa epops*, *Circus cyaneus*, *Archibuteo*, *Milvus migrans*, *Ardea cinerea*, *Ardetta minuta* (1872), *Nycticorax griseus*, *Columba oenas* (breeding), *Scolopax rusticola* (breeding), *Limosa belgica* (Black-tailed Godwit), *Stercorarius pomatorhinus*, *Mergus alle*; also anent *Asio accipitrinus* breeding on the English side of the Cheviots, *Syrnium aluco* at Cheviot, *Nyctala tengmalmi* at Berwick in 1873 and near Embleton in 1861, *Circus cineraceus* near Alnwick and Beal, *Aquila chrysaetos* formerly nesting on Cheviot, *Milvus iclinus* formerly breeding on Alnwick Moor, *Pernis apivorus* at Twizell, Sep. 20th, 1846, *Falco peregrinus* still breeding in Cheviot, *Falco rufipes* at Hauxley in Northumberland, *F. aesalon* breeding on Cheviot, *Ardea ralloides* at Howick, *Ciconia alba* at Newton-by-the-Sea and Scremerston, *Plegadis falcinellus* at Mindrum, *Ædemia fusca* at Berwick, *Mergus serrator* at Weetwood near Wooler, *Turtur auritus* at Kilham, *Otis tarda* at Fenham in 1871, *Tringa alpina* nesting near Hesleyside and on Cheviot, *T. minuta* on Holy Island mudflats, *Totanus glareola* at Holy Island, *T. fuscus* twice at Holy Island, *Larus ridibundus* breeding at Pallinsburn, *Stercorarius crepiatus* at Holy Island and Beadnell, *Colymbus septentrionalis* at Weetwood near Wooler, and *Oceanodroma leucorhoa* at Glanton and at Branxton]. Scott. Nat., Oct. 1891, pp. 147-163.

THOMAS FORD.

Linc. N.

Flycatcher [*Muscicapa grisola*] occupying Chaffinch [*Fringilla cœlebs*]'s nest [at the Manor Fishery, Caistor, Lincs.]. Field, Aug. 15th, 1891, p. 284.

THOMAS FORD.

Linc. N.

Late Stay of Swifts [(*Cypselus apus*) at Caistor, Sept. 3rd, never before later than 31st August; *Hirundo* and *Chelidon* nearly in their normal numbers, spite of destruction in spring by frost]. Field, Sep. 26th, 1891, p. 475.

RILEY FORTUNE.

York Mid W.

Shoveller [*Spatula clypeata*] near Harrogate [at Ripley, Nov. 24th, 1890]. Nat., Jan. 1891, p. 12.

RILEY FORTUNE.

Northumberland, York Mid W.

Is the Starling [*Sturnus vulgaris*] Double-brooded? [discussed, and Northumberland and Harrogate experience adduced]. Nat., Feb. 1891, p. 49.

RILEY FORTUNE.

York N.W.

[Birds observed by] **The Yorkshire Naturalists' Union at Leckby Carr** [on May 18th, 1891; *Saxicola oenanthe*, *Pratincola rubetra*, *Ruticilla phaniscurus*, *Sylvia cinerea*, *S. curruca*, *S. atricapilla*, *Phylloscopus rufus*, *Ph. trochilus*, *Ph. sibilatrix*, *Acrocephalus phragmitis*, *Motacilla raii*, *Anthus trivialis*, *Muscicapa grisola*, *Hirundo*, *Chelidon*, *Cotile*, *Cypselus*, *Cuculus*, *Crex*, *Turdus viscivorus*, *T. musicus*, *T. merula*, *Erithacus*, *Regulus*

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cristatus, *Accentor*, *Parus major*, *P. cæruleus*, *P. britannicus*, *P. palustris*, *Troglodytes*, *Motacilla lugubris*, *Anthus pratensis*, *Certhia*, *Ligurinus*, *Passer* (both), *Fringilla cælebs*, *Linota cannabina*, *L. rufescens*, *Pyrrhula*, *Emberiza citrinella*, *Sturnus*, *Garrulus*, *Pica*, *Corvus monedula*, *C. corone*, *C. frugilegus*, *Alauda arvensis*, *Gecinus*, *Alcedo*, *Accipiter nisus*, *Ardea cinerea*, *Anas boschas*, *Columba palumbus*, *C. ænas*, *Phasianus*, *Perdix*, *Gallinula*, *Vanellus*, and *Gallinago cælestis* noted, some of them breeding]. *Nat.*, Aug. 1891, pp. 237-238.

RILEY FORTUNE.

York Mid W.

[Birds observed by] **The Yorkshire Naturalists' Union at Grassington** [on June 20th, 1891; *Turdus viscivorus*, *T. musicus*, *T. merula*, *T. torquatus*, *Saxicola ananthe*, *Erithacus*, *Regulus cristatus*, *Accentor*, *Cinclus*, *Parus major*, *P. cæruleus*, *Troglodytes*, *Motacilla lugubris*, *M. melanope*, *M. raii*, *Pratincola rubetra*, *Ruticilla phœnicurus*, *Sylvia cinerea*, *S. atricapilla*, *S. hortensis*, *Phylloscopus trochilus*, *Ph. sibilatrix*, *Acrocephalus phragmitis*, *Anthus trivialis*, *A. pratensis*, *Ligurinus*, *Passer domesticus*, *Fringilla cælebs*, *Linota rufescens*, *Pyrrhula*, *Muscicapa grisola*, *Hirundo*, *Chelidon*, *Cotile*, *Cypselus*, *Cuculus*, *Crex*, *Tringoides*, *Emberiza miliaria*, *Sturnus*, *Garrulus*, *Pica*, *Corvus monedula*, *C. corone*, *C. frugilegus*, *Alauda arvensis*, *Tinnunculus*, *Columba palumbus*, *C. ænas*, *Phasianus*, *Perdix*, *Charadrius pluvialis*, *Gallinago cælestis*, and *Numenius arquata* noted, with the breeding species marked, and further details given for several]. *Nat.*, Sep. 1891, pp. 264-265.

RILEY FORTUNE.

York Mid W.

Cream-coloured Variety of the Skylark [*Alauda arvensis*] at Harrogate [one shot Sep. 3rd, 1891, at Birk Crag]. *Nat.*, Oct. 1891, p. 297.

RILEY FORTUNE.

York Mid W.

Manx Shearwater [*Puffinus anglorum*] in Upper Nidderdale [near Lofthouse, Sep. 1890]. *Nat.*, Oct. 1891, p. 297.

RILEY FORTUNE.

York S.W.

[Birds observed by] **the Yorkshire Naturalists' Union in Edlington and Wadworth Woods, near Doncaster, on 16th and 17th Sep., 1891**; *Turdus musicus*, *T. merula*, *Erithacus*, *Accentor*, *Acredula rosea*, *Parus major*, *P. britannicus*, *Troglodytes*, *Anthus pratensis*, *Hirundo*, *Chelidon*, *Cotile*, *Ligurinus*, *Passer domesticus*, *Fringilla cælebs*, *Linota cannabina*, *L. rufescens*, *Emberiza citrinella*, *Sturnus*, *Garrulus*, *Pica*, *Corvus monedula*, *C. frugilegus*, *Alauda arvensis*, *Picus* (sp.?), *Columba palumbus*, *Phasianus*, and *Perdix*]. *Nat.*, Nov. 1891, p. 333.

RILEY FORTUNE.

York Mid W.

White Variety of the Thrush [*Turdus musicus*] in Upper Nidderdale [near Deadman's Hill and Little Whernside, Aug. 12th, 1891]. *Nat.*, Nov. 1891, p. 351.

RILEY FORTUNE.

York Mid W.

Grey Phalarope [*Phalaropus fulicarius*] near Harrogate [one shot at Beckwithshaw, Oct. 16th, 1891]. *Nat.*, Dec. 1891, p. 372.

F. G. FRYER.

Ouse at York.

[Wild Duck (*Anas boschas*) on the frozen Ouse at York]. *N. H. J.*, March 15th, 1891, p. 36.

F. G. F[RYER].

York S.E.

Black-headed Gulls [*Larus ridibundus*] at Langwith [27th April, 1891]. *N. H. J.*, May 15th, 1891, p. 71.

J. H. FRYER.

York Mid W.

[At Ilkley, *Charadrius pluvialis*, *Caprimulgus*, and *Acrocephalus schœnobænus*; and at Malham, *Corvus corax*]. *N. H. J.*, Oct. 15th, 1891, p. 129.

J. H. FRYER [and others].

York S.W.

Migrant Table, No. 15, 1891 [giving Ackworth dates of arrival for *Saxicola*, *Phylloscopus rufus*, *Ph. trochilus*, *Hirundo*, *Cotile*, *Chelidon*, *Anthus*

trivialis, *Pratincola rubetra*, *Motacilla raii*, *Daulias*, *Ruticilla phœnicurus*, *Cuculus*, *Sylvia cinerea*, *Acrocephalus phragmitis*, *Locustella*, *Phylloscopus sibilatrix*, *Crex*, and *Cypselus*]. N. H. J., Oct. 15th, 1891, p. 136.

J. G. GOODCHILD.

York N.W.

The Yorkshire Naturalists' Union in Upper Swaledale [mentioning Oxnop Scars as a place in which *Corvus corax* has bred to within recent years]. Nat., July 1891, p. 204.

W. G. GRACE.

Notts.

Curiosities [of Cricket ; mentioning that Swallows (species and date not given) flitting across the wicket stopped the Gloucestershire v. Notts match for a short time, at Trent Bridge, Nottingham, in 1875]. Cricket, by W. G. Grace ; . . . Bristol : J. W. Arrowsmith, . . . 1891, 8vo., cloth, p. 478.

W. GRAHAME.

Cumberland.

Curious Nesting-place of Whinchat [(*Pratincola rubetra*) in a bush on the rifle-range near Carlisle]. Field, July 11th, 1891, p. 45.

J. T. GUMERSALL [and four others].

Lanc. S.

Migrant Table, No. 15, 1891 [giving for Penketh, near Warrington, dates of arrival of *Saxicola*, *Phylloscopus trochilus*, *Hirundo*, *Cotile*, *Anthus trivialis*, *Pratincola rubetra*, *Motacilla raii*, *Sylvia atricapilla*, *Chelidon*, *Cuculus*, *Sylvia cinerea*, *Acrocephalus phragmitis*, *S. curruca*, *Tringoides*, and *Cypselus*]. N. H. J., Oct. 15th, 1891, p. 136.

[J. T.] GUMERSALL.

Lanc. S.

[Bird-notes at Penketh ; *Larus ridibundus*, *Accipiter nisus*, *Hirundo*, *Alauda arvensis*, and *Sturnus*]. N. H. J., Nov. 15th, 1891, p. 146.

J. H. GURNEY [junr.].

York N.E.

Ornithological Notes from Norfolk [with mention of *Muscicapa parva* Bechst. shot at Scarborough, 23rd October, 1889, and of *Cypselus melba* picked up on Scarborough Spa, 24th September, 1890]. Zool., April 1891, pp. 136-137.

J. H. GURNEY.

York N.E.

Red-breasted Flycatcher [*Muscicapa parva*] at Scarborough [Oct. 23rd, 1889 ; is in Sir Vauncey Crewe's collection]. Zool., Dec. 1891, p. 471.

G. H. CATON HAIGH.

Linc. N.

Change of Plumage in the Jackdaw [(*Corvus monedula*), in North Lincolnshire, discussed]. Zool., Dec. 1890, p. 464.

G. W. CATON HAIGH.

Linc. N.

Lapland Bunting [*Calcarius lapponicus*] in Lincolnshire [a male shot 18th November, 1890, among the sandhills at North Cotes ; *Plectrophanes nivalis*, *Emberiza citrinella*, and *E. schœniclus* immigrating same day]. Zool., June 1891, p. 217.

ALLAN B. HALL.

York N.E.

Thirsk [Notes ; *Cygnus bewickii* on the Swale, several in January ; an adult male *Falco aesalon* near Skipton-on-Swale ; *Ardea cinerea* plentiful among the Hambleton streams]. N. H. J., March 15th, 1891, p. 40.

A. E. HALL.

York S.W.

Three Large Species of Birds Building in One Tree [at Thorpe Wood, Kiveton Park, viz. *Corvus corone*, *Pica rustica*, and *Tinnunculus*]. Nat., Oct. 1891, p. 297.

J. E. HALL.

York N.E.

Migrant Table, No. 15, 1891 [giving for Thirsk dates of arrival of *Phylloscopus trochilus*, *Hirundo*, *Cotile*, *Ruticilla phœnicurus*, *Cuculus*, *Sylvia cinerea*, *S. curruca*, *Acrocephalus phragmitis*, *Tringoides*, *Crex*, and *Cypselus*]. N. H. J., Oct. 15th, 1891, p. 136.

- J[OHN]. H[ANDLEY]. York N.W.
Migration of Rooks [*Corvus frugilegus*] at **Briggflatts and Ingrinn Hall**, Sedbergh, where six rookeries (200 nests) were entirely deserted; note on *Crex* finding it hard to get cover]. N. H. J., June 15th, 1891, p. 95.
- H. S. HARLAND. York S.E.
White Stork [*Ciconia alba*] in **Yorkshire** [one shot at Barmston, in 1856, by writer's brother; specimen now in Edward Tindall's collection at Knapton; occurrence said to be hitherto not recorded]. Field, Nov. 21st, 1891, p. 795.
- R. P. HARPER. York N.E., Northumberland.
Bernacle Goose [*Bernicla leucopsis*] near **Scarborough** [has not been met with since 1866, when a small flock occurred in October, a few miles north of Scarborough, also on the coast of Northumberland]. Zool., Feb. 1891, p. 68.
- J. W. HARRISON. Linc. N.
Bittern [*Botaurus stellaris*] in **North Lincolnshire** [at Goxhill, Dec. 11th, 1890; details given]. Nat., April 1891, p. 117.
- J. W. HARRISON. Linc. N.
Ornithological Notes from the Humber district [noting *Tringa subarquata* in plenty, *T. alpina*, and *Strepsilas* on the Humber muds at Goxhill, 30th August, 1890]. Nat., May 1891, p. 134.
- J. E. HARTING. Notts.
The Wood Warbler [*Phylloscopus sibilatrix*] in the **Midlands** [more abundant in Sherwood Forest than *P. trochilus*, and breeds freely at Rainworth]. Zool., July 1891, p. 271.
- J. E. HARTING. Lancashire Coast.
On the Nesting Habits of the Ringed Plover, *Ægialitis hiaticula* [as observed, among other places, amongst the sand-dunes which fringe the Lancashire coast]. Zool., Dec. 1891, p. 447.
- H. B. HEWETSON. York S.E.
[Parasite on a Yorkshire-killed *Syrrhaptes paradoxus* exhibited]. Proc. Linn. Soc., June 6th, 1889, pub. Aug. 1891, p. 52.
- W. HEWITT. 'York.'
Eared Grebe [*Podiceps nigricollis*] near **York** [shot on the Ouse, 23rd October, 1891]. Nat., Jan. 1891, p. 6.
- WILLIAM HEWETT. York N.E., S.E., or Mid. W.
Black-necked Grebe [*Podiceps nigricollis*] shot on the Ouse, near York, 23rd October, 1890]. Sci. Goss., Feb. 1891, p. 43.
- WILLIAM HEWETT. York, N.E.
Birds and Snow in May (Goathland) [stating effects of severe weather on *Vanellus*, *Lagopus scoticus*, *Numenius arquata*, *Charadrius pluvialis*, *Gallinago caelestis*, *Tringoides*, *Turdus torquatus*, *Cuculus*, and *Falco aesalon*]. Nat., July 1891, p. 214.
- W. C. HEY. York S.E.
Some Word-pictures taken from Nature [with incidental note of *Corvus monedula* at Sheriff Hutton Castle]. Nat., July 1891, p. 216.
- ROWLAND H. HILL. York S.W.
Curiosities in Eggs [in the Halifax district; *Erithacus rubecula*, *Turdus musicus*, *T. merula*, *Accipiter nisus*, *Passer domesticus*, *Pica caudata*, and *Turdus viscivorus* mentioned]. Sci. Goss., Feb. 1891, p. 46.
- J. F. H[ILLS]. Cheshire.
The Cold Winter [and its effect on bird-life; *Fringilla montifringilla* in Cheshire, *Alauda arvensis* and *Turdus musicus* in South Lancashire]. N. H. J., Feb. 15th, 1891, p. 18.

- J. F. H[ILLS]. Lanc. S.
A White Starling [(*Sturnus vulgaris*) near Penketh]. N. H. J.,
 March 15th, 1891, p. 40.
- J. F. H[ILLS]. and T. Y[Secs.]. Lanc. S.
Ornithology [at Penketh; *Numenius arquata* at Barton Moss, eggs of *Corvus frugilegus* at Bold Park, absence of *Turdus viscivorus* this spring]. N. H. J.,
 May 15th, 1891, p. 70.
- J. F. H[ILLS]. Lanc. S.
Do Cuckoos [*Cuculus canorus*] **Suck Eggs?** [discussed, also *Garrulus*,
Pica, and *Corvus corone* as being the performers about Penketh]. N. H. J.,
 May 15th, 1891, p. 76.
- J. F. H[ILLS, secretary]. Lanc. W. and S.
[Birds noted to Penketh Boys' Field Club; *Turdus torquatus*, *Phylloscopus sibilatrix*, *Sylvia curruca*, *Falco aesalon*, *Squatarola*, and *Tringoides*, all at Nickie Nook, near Scorton, 18th May, 1891; and *Anthus trivialis* near Prescott]. N. H. J., June 15th, 1891, p. 89.
- J. F. HILLS [secretary]. Lanc. S.
[Marsh Tit (*Parus palustris*) Eggs near Sankey]. N. H. J., Sep. 15th,
 1891, p. 106.
- WM. HODGSON. Cumberland.
Water-Rail [*Rallus aquaticus*] near **Workington** [one killed by frost in
 Dec. 1890]. Nat., Feb. 1891, p. 49.
- W. HODGSON. Cumberland.
Buffon's Skua [*Stercorarius parasiticus*] at **Workington** [one picked up
 19th Oct., 1891; several others seen by Thomas Mann]. Nat., Dec. 1891,
 p. 372.
- A. C. HOLTBY. York Mid W.
Blue Tits [(*Parus caeruleus*) at **Heaton House near Boroughbridge**; three
 old birds feeding a nest of young, June 28th, 1891]. Nat., Sep. 1891, p. 282.
- ELIJAH HOWARTH. Linc. S., Derbyshire, York S.W.
Occurrences of Uncommon Birds in Derbyshire and South Yorkshire
 [*Lomvia troile* in Sheffield, 26th Nov., 1890; *Fulica* at Sheffield, 29th Nov.;
Syrnium aluco near Grantham, Ap. 1891; *Tringa striata* near Derby; pale
 buff variety of *Saxicola ananthe* at Castle Donington; mottled variety of
Perdix cinerea at Foremark; albino *Passer domesticus* at Arleyston near
 Derby, Aug. 1890; pied *Turdus merula* at Arleyston, Nov. 1890; white
T. musicus at Sudbury near Derby, June 1890; white *Phasianus colchicus*
 near Ashby-de-la-Zouch, Dec. 1890; *Dafila acuta* at Kedleston Park near
 Derby, 23rd Dec. 1890; *Fuligula cristata* and *F. marila* on the Trent at
 Weston, Dec. 1890; *F. ferina* and *Mareca* near Doncaster, Dec. 1890; and
Tadorna cornuta on the Trent near Burton, Dec. 1890]. Nat., June 1891,
 pp. 181-182.
- A. S. HUTCHINSON. Derbyshire.
Wildfowl in Derbyshire [noting *Fuligula cristata* and *Merganser* at Shard-
 low; *Mergus merganser* and *Anser segetum* at Anchor Church and Twyford;
Anser segetum at Repton; *Puffinus anglorum*, *Fuligula marila*, *F. cristata*,
 and *F. ferina* at Melbourne; *Spatula* at Calke; *Dafila* at Kedleston Park
 near Derby; *Tringa striata* at Withington; and first known *Edicnemus*
scolopax for Derbyshire, at Ashover near Chesterfield; a white *Cotile* on the
 Trent at Cavendish Bridge near Derby; albino *Passer domesticus* at Arleston
 near Derby; pale buff do. from Draycott; a buff-coloured *Saxicola ananthe*
 from Castle Donington near Derby; a pied *Turdus merula* from Mickleover;
 and a pied *Perdix cinerea* from the Foremark Estate]. Field, Ap. 4th, 1891,
 p. 477.
- P. M. C. KERMODE. Isle of Man.
Phenological Observations [giving Manx dates for *Cotile*, *Tinnunculus*,
Cypselus, and *Crex*]. Yn Lioar Manninagh, No. 9, April-Oct. 1891, p. 292.

- E. P. KNUBLEY. York Mid W.
Unseasonable Weather in Mid-May (Staveley, near Boroughbridge)
 [with note of its effect upon *Phylloscopus trochilus*, *Hirundo*, *Sturnus*, and
Turdus merula]. Nat., July 1891, p. 208.
- E. LARDER. Linc. N
Two Cuckoo [*Cuculus canorus*]'s Eggs in One Nest [of *Motacilla lugubris*,
 near Louth]. Nat., July 1891, p. 214.
- B. B. LETALL. York S.E.
Heron [*Ardea cinerea*] on the Derwent. N. H. J., April 15th, 1891, p. 53.
- PAUL LEVERKÜHN. Cumberland, York Mid W.
Fremde Eier im Nest. Ein Beitrag zur Biologie der Vögel [an 8vo.
 work, in paper covers, xii. + 212 + iv. pages; a collection of facts on the
 subject from various sources, including Macpherson and Duckworth's 'Birds
 of Cumberland,' a paper by F. R. Fitzgerald in the Naturalist, March 1887
 (*Turdus merula* at Harrogate), etc.].
- JOHN LEYLAND. Derbyshire.
The Peak of Derbyshire [;] its Scenery and Antiquities [with casual
 mention of *Corvus monedula* at Castleton, *Turdus musicus* and *T. merula*
 at Matlock, and *Corvus frugilegus* and *C. monedula* at Chee Tor on pages 65,
 153, 254]. London, 1891, 8vo., 340 pages, with map and illustrations.
- G. F. L[INNEY]. Cumberland.
Nest of a Water Ouzel [or Dipper (*Cinclus aquaticus*) at Wigton, 28th Feb.,
 1891, with eggs]. N. H. J., April 15th, 1891, p. 60.
- HENRY WALLIS G. LOFT. Linc. N.
Rough-legged Buzzard [*Archibuteo lagopus*] and Buff-coloured Snipe
 [*Gallinago caelestis*] in Lincolnshire [shot at Haugham and at North Thoresby
 respectively]. Field, Jan. 24th, 1891, p. 120.
- PHILIP W. LOTEN. York S.E.
Goldcrests [*Regulus cristatus*] and Redstarts [*Ruticilla phanicurus*] at
 Easington in Holderness [April 4th and 7th, 1891]. Nat., May 1891, p. 134.
- H. A. MACPHERSON. Cumberland.
Reported Appearance of the Snow Goose in England [giving particulars
 of flocks of *Chen albatus* on the English Solway and up the Eden; first seen
 near Allonby about 3rd Jan., 1891]. Field, Jan. 31st, 1891, p. 163.
- H. A. MACPHERSON. York S.E.
On the Great Grey Shrike, *Lanius excubitor* [treating generally on its
 migration and occurrences in Britain; with mention that in 1876 no less than
 fourteen were identified at Spurn during October]. Zool., March 1891,
 pp. 96-100.
- H. A. MACPHERSON. York N.W. and S.E.
White Grouse [*Lagopus scoticus*] and White Partridges [*Perdix cinerea*]
 in Yorkshire [being extracts from old records, of the former at Middleham in
 1828, the latter at South Cave in 1797]. Nat., April 1891, p. 115.
- H. A. MACPHERSON. Cumberland.
Wild Swans [notes on habits of *Cygnus bewicki* as observed in 1889 near
 Carlisle, and of *C. musicus* and *C. olor*]. Field, April 4th, 1891, p. 477.
- H. A. MACPHERSON. Cumberland.
Some Notes on the White Wagtail [*Motacilla alba*] on the Solway and
 in Cumberland, from the writer's own and T. C. Heysham's 1842 and 1848
 observations; with Continental notes]. Nat., July 1891, pp. 211-212.
- H. A. MACPHERSON. Westmorland.
Provincial Names for Birds [inquiry as to the meaning of 'gody gogges'
 used in old Westmorland accounts dated 1636]. Field, Aug. 1st, 1891, p. 204.
 [In Field, Aug. 15th, 1891, p. 284, the 'gwas-y-gog' (Welsh name for
 wryneck (*Iynx torquilla*) = 'Cuckoo's servant' is cited by 'P.').

H. A. MACPHERSON.

Yorkshire.

Early Notice [by John Ray in 1713] of the Pink-footed Goose [*Anser brachyrhynchus*] in Yorkshire [giving extracts from Ray's Syn. Meth. Av.]. Nat., Aug. 1891, p. 242.

H. A. MACPHERSON.

York N.E.

The Chough [*Pyrrhocorax graculus*] in Yorkshire [in former times, evidenced by an ulna from Kirkdale Cave preserved in British Museum; extracted from R. Lydekker in Ibis]. Nat., Aug. 1891, p. 252.

H. A. MACPHERSON.

The Fork-tailed Petrel [(*Procellaria leucorrhæa*) on the Solway, seven reported, and in Westmorland, one; Wilson's Petrel (*Oceanites oceanicus*) washed up in Watney (?Walney), Nov. 1890, now in writer's possession]. Field, Oct. 10th, 1891, p. 546.

R. T. MANSON.

Durham.

[List of 92 'Aves' found in the neighbourhood of Darlington; no annotations]. Zig-zag Ramblings of a Naturalist, small 8vo., Darlington, 1884, pp. 134-7.

C. E. MILLS.

York N.E.

Red-legged Partridges [*Caccabis rufa*] in Cleveland [several have been shot at Newham near Marton-in-Cleveland within the last ten years, and one in Sept. 1890]. Field, March 21st, 1891, p. 409.

JOHN MORLEY.

York N.E.

Manx Shearwater [*Puffinus anglorum*] Inland [shot August 26th, 1891, at Appleton-le-Street, near Malton]. Field, Sept. 5th, 1891, p. 396.

JOHN MORLEY.

York N.E.

Manx Shearwater [*Puffinus anglorum*] near Malton [one shot at Appleton-le-Street, 26th Aug.; details given]. Zool., Oct. 1891, p. 396.

NEWMAN NEAVE.

Lanc. S.

Manchester Ornithological Notes [in order of date: *Vanellus*, *Numenius arquata*, *Motacilla melanope*, *Anthus pratensis*, *Pica*, *Turdus torquatus*, *T. merula*, *Scolopax rusticola*, *T. musicus*, *Saxicola*, *Hirundo*, *Lagopus scoticus*, *Columba palumbus*, and *Tringoides* noted]. N.H.J., June 15th, 1891, p. 96.

N. NEAVE.

Cheshire.

Migrant Table No. 15, 1891 [giving dates of arrival at Rainow near Macclesfield of *Saxicola*, *Phylloscopus trochilus*, *Hirundo*, *Turdus torquatus*, *Anthus trivialis*, *Chelidon*, *Ruticilla phænicurus*, *Cuculus*, *Tringoides*, and *Crex*]. N. H. J., Oct. 15th, 1891, p. 136.

T. H. NELSON.

York N.E.

Red-legged Partridges [*Caccabis rufa*] in Cleveland [three shot at Bonny Grove, near Martin-in-Cleveland; some were turned down at Ingleby 30 or 40 years ago, and occasionally some strayed to Bonny Grove, but till now it is 15 years since any were seen there]. Field, March 14th, 1891, p. 367.

J. H. NELSON.

York N.E.

Arrival of Summer Birds [at Redcar; two *Saxicola cineracea* and some *Pratincola rubetra* seen 20th March]. Field, March 28th, 1891, p. 449.

T. H. NELSON.

Durham.

[Note as to the Crested Tit (*Parus cristatus*) shot on Sunderland Moor, Jan. 1850; and of Crossbills (*Loxia curvirostra*) shot in the Wear Valley near Wolsingham, where they had nested]. Nat., April 1891, p. 116.

Naturalist,

- T. H. NELSON. Lanc. W.
Great Northern Divers [*Colymbus glacialis*] and **Long-tailed Duck**
 [*Harelda glacialis*] near Morecambe [dates given]. Nat., April 1891, p. 117.
- THOMAS H. NELSON. York N.E. Durham.
Ornithological Notes from Redcar for 1890-91 [anent *Saxicola*, *Ægialitis hiaticula*, *Larus marinus*, *L. fuscus*, *Phalacrocorax carbo* (break-up of Kettle-ness colony), *L. argentatus*, *Columba ænas*, *Numenius phæopus*, *Squatarola*, *Tringa subarquata*, *T. canutus*, *Stercorarius crepidatus*, *Sterna cantiaca*, *S. minuta*, *Limosa lapponica*, *Tot. calidris*, *Strepsilas*, *Hæmatopus*, *Calidris*, *Tringa alpina*, *Sula*, *Scolopax rusticola*, *Colymbus septentrionalis*, *Alauda arvensis*, *Fringilla cælebs*, *Pernis apivorus*, *Ardea cinerea*, *Asio accipitrinus*, *Phalaropus fulicarius*, *Vanellus*, *Stercorarius parasiticus*, *Corvus cornix*, *Lomvia troile*, *Alca torda*, *Otocorys*, *Gallinago caelestis*, *Harelda*, *Mergus merganser*, *St. pomatorhinus*, *Colymbus septentrionalis*, *Sterna macrura*, *Œdemia fusca*, *Falco peregrinus*, *F. tinnunculus*, *Podiceps fluviatilis*, *Col. glacialis*, *Col. arcticus*, *Plectrophanes nivalis*, *Cygnus musicus*, *Columba palumbus*, *Porzana maruetta*, *Larus ridibundus*, *Mergulus*, *Fuligula marila*, *Turdus pilaris*, *T. iliacus*, *T. musicus*, *Alauda arborea*, *Fuligula marila*, *Podiceps cristatus*, *P. griseigena*, *Cygnus olor*, *Larus glaucus*, and *Anser cinereus*]. Nat., April 1891, pp. 119-124.
- T. H. NELSON. York N.E.
Red-legged Partridges [*Caccabis rufa*] in **Cleveland** [giving notes on their being introduced at Ingleby and their occurrence at Gunnergate, Martin, Newham, and Bonny Grove]. Field, April 4th, 1891, p. 477.
- T. H. NELSON. York N.E.
Comparative Scarcity of the Bernacle Goose [(*Bernicla leucopsis*) on the N.E. coast; none at Teesmouth since 1883]. Zool., May 1891, p. 193.
- T. H. NELSON. York N.E.
Spring Migrants in Cleveland [arrival of *Saxicola ananthe*, *Pratincola rubetra*, and *Motacilla lugubris* on the 20th March]. Nat., May 1891, p. 134.
- T. H. NELSON. York N.E.
Arrival of Summer Birds [at Redcar; *Crex*, April 30th]. Field, May 9th, 1891, p. 675.
- T. H. NELSON. Durham, York N.E.
Ornithological Notes from Redcar for 1890-91 [anent *Ægialitis hiaticula* nesting, break-up of the Kettle-ness colony of *Phalacrocorax carbo*, *Larus argentatus*, and *Columba ænas* nesting, *Squatarola*, *Tringa canutus*, *Stercorarius crepidatus*, *Limosa lapponica*, *Strepsilas*, *Totanus calidris*, *Hæmatopus*, *Calidris*, great abundance of *Tringa subarquata*, *Sterna cantiaca*, *S. minuta*, *Sula*, *Scolopax rusticola*, *Colymbus septentrionalis*, *Fringilla cælebs*, *Alauda arvensis*, *Pernis* shot near Whitby, 26th Sep., 1890, *Ardea cinerea*, *Phalaropus fulicarius*, *Vanellus*, *Stercorarius parasiticus*, *Corvus cornix*, *Lomvia troile*, *Alca torda*, *Otocorys*, *Gallinago caelestis*, *Harelda*, *Stercorarius pomatorhinus*, *Sterna macrura*, *Oidemia fusca*, *Falco peregrinus*, *Tinnunculus*, *Tachybaptus*, *Colymbus glacialis*, *Plectrophanes nivalis*, *Colymbus arcticus*, *Columba palumbus*, *Porzana maruetta*, *Larus ridibundus*, *Mergulus*, *Fuligula marila* in great numbers, *Cygnus ferus*, *Turdus pilaris*, *T. iliacus*, *T. musicus*, *Alauda arborea*, *Podiceps cristatus*, *P. griseigena* in unusual numbers, *Cygnus olor*, *Larus glaucus*, *Anser cinereus*, and remarks on the very unusual abundance of Grebes at Redcar, Scarborough, and Flamborough, with suggested explanation]. Zool., July 1891, pp. 249-254.
- T. H. NELSON.
The Fork-tailed Petrel [(*Procellaria leucorrhœa*) one picked up near Easby in Cleveland, Oct. 1st, now in possession of C. A. Emerson; this is the second Cleveland instance for 40 years]. Field, Oct. 1891, p. 546.

- R. NEWSTEAD, SEN. Cheshire.
Coccinellidæ eaten by Black-headed Gulls [*Larus ridibundus*] when flying over the tops of tall trees in a small plantation near the Mersey; *Sturnus vulgaris* also; note dated from Ince]. Ent., May 1891, p. 122.
- R. NEWSTEAD. Cheshire.
Another Nauseous Insect eaten by a Woodpecker [at Broxton Old Hall, Cheshire; a female *Dendrocopus major* L., shot in January 1892, contained *Coccinella variegata* and also *Rhagium bifasciatum*]. Ent., Ap. 1891, p. 100.
- FRANK NICHOLSON. Isle of Man.
Wild Swans [*Cygnus musicus* and *C. bewicki*] in the Isle of Man [several instances; *Spatula* also observed on Feb. 19th, a rare bird here]. Zool., June 1891, p. 218.
- G. F. ORMEROD. York S.W.
Grey Phalarope [*Phalaropus fulicarius*] Inland in Yorkshire [one shot on the Calder at Brighouse, Oct. 19th, 1891]. Field, Nov. 7th, 1891, p. 706.
- GEO. PARKIN. York S.W.
Great Northern Diver [*Colymbus glacialis*] near Wakefield [a fine male shot Oct. 30th, 1890; one also noted for March 1888]. Nat., Ap. 1891, p. 117.
- RD. PAVER-CROW. York Mid W.
Late Occurrence of House Martins [*Chelidon urbica*] at Boroughbridge [on the 19th Nov. 1891]. Nat., Dec. 1891, p. 372.
- J. W. PEILE and J. J. WILLIAMSON. Cumberland.
Migrant Table, No. 15, 1891 [giving for Wigton dates of arrival of *Phylloscopus rufus*, *Ph. trochilus*, *Hirundo*, *Cotile*, *Pratincola rubetra*, *Motacilla raii*, *Sylvia atricapilla*, *Chelidon*, *Ruticilla phœnicurus*, *Cuculus*, *Sylvia cinerea*, *S. curruca*, *Acrocephalus phragmitis*, *Tringoides*, *Crex*, *Cypselus*, *Sylvia hortensis*, and *Muscicapa grisola*]. N. H. J., Oct. 15th, 1891, p. 136.
- GEORGE PERFECT. Notts.
Swallows [*Hirundo rustica*] nesting in an Engine Room [at the Devon Foundry, Newark]. Field, Oct. 24th, 1891, p. 618.
- T. PICKIN. Isle of Man, Lanc. S.
Wild Swans in Ireland and North Wales [and one *Cygnus musicus* from the Isle of Man; also a *Botaurus stellaris* killed near Warrington, 7th Dec., 1891, the second that writer has had thence]. Field, Jan. 31st, 1891, p. 163.
- T. E. PLATT. Notts, York Mid W.
Great Spotted Woodpecker [*Dendrocopus major*] and **Hawfinch** [*Coccothraustes vulgaris*] in Notts and Yorkshire [at Aldercar Hall, Nottingham, and at Whitkirk, Leeds, respectively]. Nat., May 1891, p. 134.
- HERBERT PRODHAM. York N.E.
Late Nesting of Yellowhammer [*Emberiza citrinella*] near Pickering [at Allerston, 2nd Sep., 1891]. Nat., Nov. 1891, p. 351.
- JNO. PROUD. Lanc. S.
[Bird-notes at Penketh; *Alauda arvensis*, *Pratincola rubetra*, both at Penketh, and *Chrysomitris spinus* near Hough Green]. N. H. J., June 15th, 1891, p. 89.
- T. H. ROBINSON. Isle of Man.
[Birds seen at the Isle of Man; *Phalacrocorax carbo*, *Fratercula* and *Numenius arquata*]. N. H. J., Sep. 15th, 1891, p. 107.
- T. H. ROBINSON. Lanc. S.
[*Regulus cristatus* in the woods near Norton Priory, near Penketh]. N. H. J., June 15th, 1891, p. 88.

- CHARLES ROBSON. Northumberland S.
[Peculiarities in Site and Structure of Birds' Nests [of *Parus major*, *Troglodytes parvulus*, *Emberiza citrinella*, *Motacilla lugubris*, *Hirundo*, and *Cotile*, treated of at length; observations made at Elswick and by river Blythe]. *Sci. Goss.*, Jan. 1891, pp. 6-8.
- W. D. R[OEBUCK]. Derbyshire.
Local Lists of Birds [being a review of Miller's Christy's pamphlet, and including not only criticism but additional notes and citation of two lists for Derbyshire]. *Nat.*, Nov. 1891, pp. 351-352.
- C. R. ROEDER. Isle of Man.
Folklore [of the Isle of Man; concerning *Troglodytes*]. *Yn Lioar Manninagh*, No. 9, April-Oct. 1891, p. 290.
- B. ROSE. Linc. N.
Rough-legged Buzzard [*Archibuteo lagopus*] in Lincolnshire [one killed, 19th Nov., 1891, at Sutton, in Lincolnshire]. *Field*, Dec. 5th, 1891, p. 882.
- W. H. ST. QUINTIN. York, S.E.
Late Stay of Swifts [(*Cypselus apus*) at Scampston near Rillington, Oct. 9th, one seen]. *Field*, Oct. 17th, 1891, p. 582.
- W. SAMPEY. Notts.
Swallows and the Weather [species not stated; in vast numbers on the Trent at Hazleford Ferry, etc., having left their nests and all gone to the river; Sand Martins (*Cotile*) scarce.] *Field*, May 30th, 1891, p. 819.
- HOWARD SAUNDERS. Cheviotland.
Dipper [*Cinclus aquaticus*] Nesting in March [21st, in north Northumberland]. *Field*, April 11th, 1891, p. 538.
- HOWARD SAUNDERS. York S.E.
Adult Sabine's Gull [*Xema sabinii*] in Hampshire [being the third known British instance of an adult, the first being the bird in summer plumage obtained at Bridlington, Aug. 10th, 1892 (*Zool. S. S.* 3316), and the second a Scottish example in 1883; immature birds are of not infrequent though irregular occurrence]. *Field*, Dec. 19th, 1891, p. 949.
- HENRY SHARP. York S.E.
Wildfowl at Beverley [on the 16th Jan., 1891, three large white birds, not Swans, with a surmise that they were Snow Geese (*Chen albus*); Editor suggests Gannets (*Sula bassana*)]. *Field*, Jan. 24th, 1891, p. 123.
- HY. SHARP. York S.E.
Supposed Occurrence of Snow Geese [*Chen albus*] in Yorkshire [near Beverley; defending his surmise and stating that the birds he saw were not *Sula*, as Editor suggested they might be]. *Field*, Feb. 7th, 1891, p. 200.
- W. E. SHARP. Cheshire.
The Coleopterest [sic] in Delamere Forest [noting also the presence of *Pica*, *Garrulus*, *Accipiter nisus*, *Columba palumbus*, *Caprimulgus*, and *Asio otus*]. *Brit. Nat.*, Nov. 1891, pp. 238-243.
- ALLEN SHUTTLEWORTH. Lanc. S.
Late Stay of Swifts [(*Cypselus apus*); one seen on the sea-wall at Liverpool, 14th Oct., 1891]. *Field*, Oct. 24th, 1891, p. 618.
- J. E. S[MITH]. Lanc. S.
Late in Departure [from Manchester; a *Cypselus* seen Sep. 19th, 1891]. *N. H. J.*, Oct. 15th, 1891, p. 136.
- C. E. STOTT. Lanc. S.
Destruction of Kingfishers [(*Alcedo ispida*) about Bolton-le-Moors has been very great]. *Zool.*, May 1891, p. 194.

- C. E. STOTT. Lanc. S.
Manx Shearwater [*Puffinus anglorum*] Inland [near Bolton-le-Moors, adult, in good condition, taken alive]. Field, Sep. 26th, 1891, p. 475.
- R. A. SUMMERFIELD. York Mid W.
Water Rail [*Rallus aquaticus*] at North Stainley, near Ripon [shot on Jan. 8th, 1891]. Nat., April 1891, p. 117.
- R. A. SUMMERFIELD. York Mid W. and N.W.
Brambling [*Fringilla montifringilla*] and **Goosander** [*Mergus merganser*] near Ripon [at North Stainley and Norton Conyers, in Jan. 1891, and Dec. 1890, respectively]. Nat., June 1891, p. 165.
- R. A. SUMMERFIELD. York Mid W.
Spotted Crake [*Forzana maruetta*] at North Stainley, near Ripon [in April 1891]. Nat., June 1891, p. 182.
- R. A. SUMMERFIELD. York Mid W.
The Note of the Corn Crake [(*Crex pratensis*); the bird's position when uttering it, observed at North Stainley, near Ripon]. Nat., Oct. 1891, p. 297.
- R. SWAIN [and four others]. York Mid W.
Migrant Table, No. 15, 1891 [giving for Rawdon (near Leeds), dates of arrival of *Saxicola*, *Phylloscopus rufus*, *Ph. trochilus*, *Hirundo*, *Cotile*, *Anthus trivialis*, *Ruticilla phonicurus*, *Cuculus*, *Sylvia curruca*, *Crex*, *Cypselus*, and *Muscicapa grisola*]. N. H. J., Oct. 15th, 1891, p. 136.
- HUBERT SWINBURNE. Northumberland S.
Wild Swans [*Cygnus musicus*] in Northumberland [three frequenting the lake at Capheaton Hall, near Newcastle, for a month past]. Field, March 7th, 1891, p. 350.
- W. B. TEGETMEIER. York S.W.
The Past Winter and the Birds [with a quotation from Seebohm as to the annual migration of *Turdus musicus* in the Rivelin Valley, Sheffield]. Field, May 9th, 1891, p. 674.
- J. T. THOMPSON. York N.E.
Migrant Table, No. 15, 1891 [giving Ayton dates of arrival for *Saxicola*, *Phylloscopus rufus*, *Ph. trochilus*, *Ph. sibilatrix*, *Hirundo*, *Cotile*, *Turdus torquatus*, *Anthus trivialis*, *Pratincola rubetra*, *Sylvia atricapilla*, *Chelidon*, *Ruticilla phonicurus*, *Cuculus*, *Sylvia cinerea*, *Locustella*, *S. curruca*, *Tringoides*, *Crex*, *Cypselus*, and *Muscicapa grisola*]. N.H.J., Oct. 15th, 1891, p. 136.
- C. F. THORNEWILL. Derbyshire.
Calendar of Nature, 1890 [as noted near Burton-on-Trent; Derbyshire date given for *Hirundo*]. Ann. Rep. Burton-on-Trent Nat. Hist. Soc., Sep. 30th, 1891, p. 10.
- T. G. TOPHAM. Linc. N.
Manx Shearwater [*Puffinus anglorum*] Killed by a Reaping Machine [at Wootton near Ulceby, Lincs., 'yesterday']. Field, Sep. 5th, 1891, p. 395.
- EDGAR R. WAITE. York Mid W.
Vertebrates of the Western Ainsty [giving detailed notices of 180 species of Birds recorded for the district, with copious annotations; a most excellent list]. Nat., March and April, 1891, pp. 82 and 87-110.
- EDGAR R. WAITE. York Mid W.
Birds and Snow in May (Harrogate) [describing the effect of a May Snowstorm on *Sturnus*, *Fringilla caelebs*, *Ligurinus*, *Passer domesticus*, *Emberiza*, and *Vanellus*, the latter being extremely perplexed and unable to find their young]. Nat., June 1891, p. 165.

- EDGAR R. WAITE. York Mid W.
Yellow Wagtails [*Motacilla raii*] at **Ghaistrills, Wharfedale** [a large immigration, 16th May, 1891]. *Nat.*, June 1891, p. 165.
- EDGAR R. WAITE. York Mid W.
[Birds observed by] the Yorkshire Naturalists' Union at Malham and Gordale [11th Sep., 1890; *Turdus viscivorus*, *T. musicus*, *T. merula*, *T. torquatus*, *Erithacus*, *Regulus cristatus*, *Accentor modularis*, *Cinclus*, *Parus britannicus*, *P. cæruleus*, *Troglodytes*, *Motacilla lugubris*, *M. melanope*, *Anthus pratensis*, *Hirundo*, *Chelidon*, *Cotile*, *Carduelis*, *Ligurinus*, *Passer domesticus*, *Fringilla cælebs*, *Emberiza citrinella*, *Sturnus*, *Corvus monedula*, *C. corone*, *C. frugilegus*, *Alcedo*, *Tinnunculus*, *Anas boschas*, *Mareca*, *Columba palumbus*, *Lagopus scoticus*, *Vanellus*, *Gallinago cælestis*, and *Tachybaptus*, with interesting notes on some of them]. *Nat.*, June 1891, pp. 173-174.
- EDGAR R. WAITE. York N.E.
Turtle Dove [*Turtur communis*] near **Robin Hood's Bay** [one shot near the Peak, June 1891; three previous instances known]. *Nat.*, July 1891, p. 214.
- EDGAR R. WAITE. York N.E.
[Birds observed by] The Yorkshire Naturalists' Union at Hayburn Wyke [on July 11th, 1891; *Turdus musicus*, *T. merula*, *Erithacus*, *Accentor*, *Cinclus*, *Parus cæruleus*, *Troglodytes*, *Motacilla lugubris*, *M. melanope*, *Ruticilla phaniscurus*, *Sylvia cinerea*, *S. hortensis*, *Phylloscopus rufus*, *Ph. trochilus*, *Ph. sibilatrix*, *Acrocephalus phragmitis*, *Anthus trivialis*, *A. pratensis*, *Certhia*, *Ligurinus*, *Passer domesticus*, *Fringilla cælebs*, *Linota cannabina*, *Emberiza miliaria*, *E. citrinella*, *Sturnus*, *Pica*, *Corvus frugilegus*, *C. monedula*, *C. corone*, *Alauda arvensis*, *Asio otus*, *Tinnunculus*, *Phalacrocorax carbo*, *Columba palumbus*, *Vanellus*, *Gallinago cælestis*, *Larus canus*, *L. argentatus*, *L. marinus*, *Hirundo*, *Chelidon*, *Cypselus*, *Caprimulgus*, and *Crex*; with details as to many of them]. *Nat.*, Sep. 1891, pp. 286-287.
- EDGAR R. WAITE. York S.E.
[Birds observed by] the Yorkshire Naturalists' Union on the Wolds [at Sledmere and York Dale, 3rd Aug., 1891; *Turdus viscivorus*, *T. merula*, *Erithacus*, *Regulus cristatus*, *Accentor*, *Parus major*, *P. britannicus*, *P. cæruleus*, *Troglodytes*, *Anthus pratensis*, *A. trivialis*, *Pratincola rubetra*, *Ruticilla phaniscurus*, *Sylvia cinerea*, *Phylloscopus trochilus*, *Motacilla lugubris*, *M. raii*, *Hirundo*, *Chelidon*, *Cypselus*, *Ligurinus*, *Passer domesticus*, *Fringilla cælebs*, *Linota cannabina*, *Emberiza miliaria*, *E. citrinella*, *Sturnus*, *Garrulus*, *Corvus monedula*, *C. corone*, *C. frugilegus*, *Alauda arvensis*, *Syrnium aluco*, *Columba palumbus*, *Phasianus*, *Perdix*, and *Larus canus*]. *Nat.*, Oct. 1891, pp. 301-302.
- EDGAR R. WAITE. York Mid W.
[Chelidon and Cotile at Pool, Wharfedale, noted in company with a] Noctule flying in sunshine. *Nat.*, Oct. 1891, p. 311.
- EDGAR R. WAITE. Lincs.
Marsh Harrier [*Circus aeruginosus*] in **Lincolnshire** [seen Sept. 1890, in a poulterer's shop in Holborn]. *Nat.*, Dec. 1891, p. 364.
- EDGAR R. WAITE. York S.W.
Grey Phalarope [*Phalaropus fulicarius*] at **Ackworth** [one picked up by the highway, 16th Oct. 1891]. *Nat.*, Dec. 1891, p. 372.
- C. WALKER. Notts.
Wildfowl in Nottinghamshire [*Fuligula marila*, *F. cristata*, *Clangula glaucion* and *Mergus merganser* shot on the Trent near Newark during the severe weather]. *Field*, Jan. 10th, 1891, p. 44.
- H. W. WALTON-WILSON. Northumberland S.
Pheasant [*Phasianus colchicus*] flying through window [at Shotley Hall, Northumberland]. *Field*, Jan. 24th, 1891, p. 120.

- J. A. WHELDON. York N.W. & N.E.
Colours of Eggs [discussed : a pair of dark chestnut-mottled eggs of *Gecinus viridis* were taken near Kipling, Yorkshire, 1881, exceedingly richly coloured ; and white eggs of *Corvus monedula* with black markings are frequent in Cleveland]. *Sci. Goss.*, Ap. 1891, p. 95.
- J. WHITAKER. Notts.
Arrival of Summer Birds [at Rainworth, Notts ; *Saxicola ananthe*, Ap. 5th ; *Hirundo*, Ap. 13th ; *Phylloscopus rufus*, Ap. 7th]. *Field*, Ap. 18th, 1891, p. 559. [*Chelidon*, Ap. 20th]. *Field*, Ap. 25th, 1891, p. 631. [*Phylloscopus sibilatrix*, Ap. 29th ; *Locustella naevia*, Ap. 25th ; and *Cypselus*, Ap. 25th]. *Field*, May 2nd, 1891, p. 641. [*Crex* at Hoveringham, May 4th ; and *Turtur communis* at Mansfield, May 3rd]. *Field*, May 9th, 1891, p. 675.
- J. WHITAKER. Notts.
Red-throated Diver [*Colymbus septentrionalis*] and other Birds in Notts [the Diver and a female *Fuligula marila* shot on the lake at Wollaton, a *Buteo vulgaris* near Nottingham, a pair of *Dafila* 'just over the boundary,' two *Anser segetum* at Annesley Park, and two *Mergus albellus* on the Trent near Beeston, and one on the Trent at Shelford]. *Zool.*, June 1891, p. 216.
- J. WHITAKER. ? Notts.
Variety of the Wild Duck [(*Anas boschas*) sent by Mr. Foljambe during the frost ; locality not given ; variation described]. *Zool.*, June 1891, p. 217.
- J. WHITAKER. Notts.
Redwings [*Turdus iliacus*] singing in April [at Rainworth, Notts]. *Zool.*, Aug. 1891, p. 313.
- J. WHITAKER. Notts.
Tufted Ducks [*Fuligula cristata*] Nesting in Nottinghamshire [at Rainworth ; three pairs this season]. *Zool.*, Aug. 1891, p. 315.
- J. WHITAKER. Notts.
Wildfowl on Rainworth Water, Notts [a *Fuligula ferina* in August, also *F. cristata*, *Spatula*, *Querquedula crecca*, *Anas boschas*, *Fuligula marila*, *Podiceps cristatus*, *Fulica*, and *Gallinula* ; exact numbers given]. *Zool.*, Dec. 1891, p. 472.
- F. B. WHITLOCK. Derbyshire, Notts, Linc. S.
Notes on the Birds of Leicestershire [with passing references to *Turdus torquatus* breeding freely in Derbyshire, *Saxicola ananthe* scarce as a breeder in the Derbyshire Peak, *Phylloscopus sibilatrix* in Notts and Derbyshire, *Motacilla alba* in Notts, *M. melanope* breeding in Derbyshire, *Anthus pratensis* breeding in Notts near the Soar mouth, *Fringilla caelebs* immigrating Oct. 1889 in large numbers on the shores of the Wash, *Botaurus stellaris* caught near Long Eaton, *Columba aenas* breeding in the red cliffs overlooking the Trent in various parts of its course in Notts, and scarcity of *Numenius arquata* in the Derbyshire Peak]. *Zool.*, Jan. 1891, pp. 21-33.
- F. B. WHITLOCK. Notts.
Pine Grosbeak [*Pinicola enucleator*] in Notts [a male killed near Watnall, 30th Oct., 1890 ; first Notts, sixth British example]. *Nat.*, Feb. 1891, p. 38.
- F. B. WHITLOCK. Notts, Derbyshire.
Ornithological Notes from Notts., Autumn and Winter 1890-91 [anent movements of *Larus canus*, *Agialitis hiaticula*, *Totanus calidris*, *Helodromas*, and *Saxicola ananthe*, occurrence of *Porzana maruetta*, *Larus minutus*, and *Totanus glottis*, movements of *Phylloscopus rufus*, *Numenius phaeopus*, *Motacilla lugubris*, *Erithacus*, *Anthus pratensis*, *Linota cannabina*, *L. flavirostris*, *Carduelis elegans*, *Regulus cristatus*, *Parus ater*, *Phylloscopus trochilus*, and *Motacilla melanope*, occurrence (fourth for Notts) of *Tringa minuta*, movements of *Corvus frugilegus*, *Falco peregrinus*, *Fringilla caelebs*, *Alauda arvensis*, and *Sterna fluviatilis*, occurrence of *Puffinus anglorum* and *Buteo vulgaris*, arrival of *Turdus pilaris* and *T. iliacus*, occurrence of *Cedemia*

nigra, movements of *Corvus cornix*, *Sturnus*, and *Scolopax rusticola*, occurrence of *Pinicola enucleator*, *Clangula glaucion*, *Mareca*, *Tringa variabilis*, and *Rallus*, movements of *Gallinago caelestis*, and *Charadrius pluvialis*, occurrence of *Colymbus septentrionalis*, *Fuligula marila*, *Lanius excubitor*, *Querquedula crecca*, *Podiceps minor*, *Bernicla leucopsis*, *Fuligula cristata*, *F. rufina*, *F. marila*, *Anas*, *Mergus merganser*, *Bernicla canadensis*, *Mergus albellus*, *Botaurus stellaris*, *Alcedo*, *Limnocyptes*, *Plectrophanes*, and *Cinclus*, and occurrence in Derbyshire of *Totanus glottis* and *Dafila acuta*. *Nat.*, Feb. 1891, pp. 46-49.

F. B. WHITLOCK.

Notts.

The Pied and White Wagtails [*Motacilla lugubris* and *M. alba*] in Notts [detailed notes on their occurrence and habits; notes also on *Hirundo*, *Mot. raii*, and *Tringoides hypoleucos*]. *Nat.*, June 1891, pp. 183-185.

F. B. WHITLOCK.

Derbyshire, Notts.

The Wood Warbler [*Phylloscopus sibilatrix*] and **White Wagtail** [*Motacilla alba*] in the Midlands [giving localities in Derbyshire and Notts for the former, and near the Leicestershire border (? of Notts) for the latter]. *Zool.*, Aug. 1891, p. 313.

F. B. WHITLOCK.

Notts.

The Manx Shearwater [*Puffinus anglorum*] **Inland** [almost annually in Notts; fly-lines discussed]. *Zool.*, Dec. 1891, p. 468.

W. H. WOODCOCK, Hon. Sec.

Lanc. S., Cheshire.

Bittern [*Botaurus stellaris*] at **Warrington** [one shot at Longford, Dec. 6th, 1890; and one at Thelwall, 1854]. *Nat.*, Jan. 1891, p. 12.

C. H. B. WOODD.

York Mid W.

Vertebrate Fauna of Langstrothdale, Mid-West Yorkshire [enumerating, with remarks, 66 species of Birds]. *Nat.*, May 1891, pp. 135-138.

JOHN WRIGLEY.

Lanc. S.

Spotted Crakes [*Porzana maruetta*] and **Phalo[sic]ropes** [*Phalaropus fulicarius*] in Lancashire [at Formby; three Crakes, one Phalarope, and five 'Petrels,' all in Oct. and Nov. 1891]. *Field*, Nov. 21st, 1891, p. 795.

NOTES AND NEWS.

A paper by our friend Dr. R. F. Scharff, of the Dublin Museum, in which he recapitulates what is known of the geographical distribution of *Geomalacus maculosus* in Ireland, forms part of the opening number of the 'Proceedings of the Malacological Society' of London, which was published in October last.

In this connection it seems a pity to multiply journals and proceedings for a branch of Zoology the students of which have had no reason to complain of any want of media for the publication of papers; and the appearance of these proceedings adds emphasis to the remarks of Mr. H. J. Elwes, who in his presidential address to the Entomological Society of London, lays great stress upon this very point, although the suggestions he makes are not altogether likely to command the assent of more than a few of his readers.

We gather that Mr. Elwes would like to restrict the number of periodicals of which cognizance is taken in matters concerning zoological nomenclature and to ignore all others. This is by no means feasible, and we are entirely at the mercy of any one who chooses to publish a book or pamphlet or to commence a new serial. For all laws of nomenclature make it necessary to take into account everything that is published whether obscure or not. We can only look to the common sense of authors and editors, and hope that they will think twice—aye three and four times—before they add to the number of serials in any branch of science which already possesses sufficient organs.

NOTES AND NEWS.

The latest example of the egg of the Great Auk sold by auction, is to find a resting-place in the North, having been acquired by Sir Vauncey-Harpen Crewe, Bart., of Calke Abbey, Derby, for the unprecedented sum of £315, advance of £90 upon any previous price paid.

—>oo<—

The recipients of medals and medal-funds at the Anniversary Meeting of the Geological Society of London include Mr. Aubrey Strahan, M.A., F.G.S., Mr. W. Talbot Aveline, F.G.S., Mr. George Barrow, F.G.S., and Mr. William Hill, F.G.S., all of whom have done sound and valuable work in geology in the North of England; and the obituary list includes such names of those of James W. Davis, G. W. Shrubsole, Edward Charlesworth, John Spencer, and John Plant, all of whom are much missed in our Northern area.

—>oo<—

The death of Mr. Caius Cassius Hanson, on the 10th February last, at West Vale, near Halifax, in his 71st year, removes one of the worthiest of the band of working-men naturalists that made the success of the old West Riding Consolidated Naturalists' Society. He was the founder of the Stainland Naturalists' Society, and in later years connected with the Elland-cum-Greetland Naturalists' Society, if indeed it were not one and the same society under a different title. He was a shoemaker by trade, a radical in politics, broad-minded and sincere in his religion, something of an antiquary, a minor poet, and a keen ornithologist, as well as a fair botanist, and interested in every phase of natural history, and he will long be remembered by all who had the good fortune to know him. Some of his notes will be found in various numbers of this Journal and of the 'Yorkshire Naturalist Recorder'.

—>oo<—

We are glad to see some attention being paid to the Marine Fauna of the German Ocean. Mr. Thomas Scott, F.L.S., of Edinburgh, who is doing such excellent work in this line for the Scottish Fishery Board, has favoured us with a reprint of a paper from his pen which appeared in the May number of the 'Annals and Magazine of Natural History,' and which treats 'On some rare and interesting Crustacea from the Dogger Bank collected by Ernest W. L. Holt.' Mr. Scott is so good an authority on Crustacea that anything that he writes is worthy of attention and careful study. The collections described were made at the South-West end of the Dogger Bank in April 1892, from on board the S S. 'Resolute,' while carrying out a series of fishery investigations for the Marine Biological Association, and the locality is about 70 or 89 miles E. by N. of the Spurn. Three Decapods, four Schizopods, four Cumaceans, 22 Amphipods, and five Copepods are noticed, several of them new to the English Coasts.

—>oo<—

We have received from the publisher (Mr. A. T. K. Fretwell, Hull) an admirable sixpenny 'Illustrated Guide to Hornsea and surrounding District,' in paper cover, with map and plan, four or five views, and extending to 65 pages of printed matter. Its principal fault is that it is not dated, a vice to which publishers of guide-books seem particularly addicted. The guide itself is an excellent and interestingly written one, and its value is considerably enhanced by the 16 pages of natural history. Mr. J. F. Robinson treats of the Flora in general, including the usually little noticed seaweeds and other Cryptogamic plants. He gives the names of a number of the better plants, with a hint that the 'ardent botanist . . . will know how to be sparing in the removal of specimens.' There is not so much need for Mr. F. W. Fierke to give the same caution with regard to the Mollusca, which he describes in a most interesting manner, concentrating his attention mainly upon the very rich and varied fauna of the Mere, in itself a unique feature in Yorkshire scenery. The scientific chapter is brought to an end by a dissertation upon the Geology of the Hornsea coast from the pen of Mr. John W. Stather, F.G.S., but there is a further note of great interest upon the encroachments of the sea upon the land, which ravages are considered not to be by any means so extensive as many people suppose.

WATER-BEETLES TAKEN NEAR AYTON, SCARBOROUGH.

REV. W. C. HEY, M.A., M.C.S.,

Vice-President of the Yorkshire Philosophical Society, West Ayton, near Scarborough.

I HAVE investigated the waters of this neighbourhood rather industriously during the present spring, and now summarise the results of my work.

- Brychius elevatus.** Fairly plentiful in rapid parts of the Derwent at Ayton, among gravel.
- Haliphus obliquus.** In the Derwent at Ayton, not very plentiful.
- Haliphus flavicollis.** Abundant in the Derwent both in the rapid and slow-flowing parts, generally in weeds.
- Haliphus fulvus.** Very abundant in Throxenby Marsh.
- Haliphus ruficollis.** Abundant in all the ponds and in the river.
- Haliphus lineatocollis.** With the foregoing species, though much less common.
- Laccophilus obscurus.** In the castle-moat and other ponds at Ayton.
- Cœlambus inæqualis.** Abundant in a pond at East Ayton, and in the moat.
- Cœlambus impressopunctatus.** One specimen taken in a pond at East Ayton in March.
- Deronectes depressus.** Common in the Derwent above and below Ayton in May and June.
- Hydroporus granularis.** Not uncommon in some mossy pools near Seamer.
- Hydroporus rivalis.** In the river at Ayton near the mill-dam among shingle in May. Also at Langdale End.
- Hydroporus septentrionalis.** At Ayton in company with *H. rivalis*, but much scarcer.
- Hydroporus lineatus.** Abundant in the Castle moat and a pond at East Ayton from March.
- Hydroporus umbrosus.** This very local insect is not uncommon in a pond at East Ayton from March to May.
- Hydroporus angustatus.** In company with *H. umbrosus*, but scarcer. Abundant at Seamer.
- Hydroporus vittula.** I took this scarce and local insect in abundance near Seamer on June 11th.

- Hydroporus palustris.** Abundant in ponds; also in the river.
- Hydroporus erythrocephalus.** Rather abundant in ponds.
- Hydroporus memnonius.** A single specimen in a boggy hole near Cornelian Bay, and another at Seamer.
- Hydroporus nigrita.** Unusually common in this district, especially near the coast. I took it as early as January at East Ayton.
- Hydroporus discretus.** I took two examples of this rare species in a small puddle at Filey. It was in company with its near ally, *H. nigrita*, from which it is only readily distinguished under rather a high power, by the smooth surface of the elytra between the thicker and deeper punctures.
- Hydroporus pubescens.** Only scarce, apparently. I have not taken more than two or three examples, and these at different times and places.
- Hydroporus planus.** Rather common in various ponds at Ayton.
- Hydroporus oblongus.** As this is one of our rarest *Dytiscidæ*, I was much pleased at finding above a score of specimens in a mossy swamp near Seamer. Canon Fowler only gives three British localities for this species, Cambridge, Horning Fen, and Askham Bog. It is much scarcer at Askham than in the new locality. It is also remarkable that whereas at Askham, it is chiefly taken in February and March, I took the Seamer specimens on June 12th.
- Agabus guttatus.** Taken at Langdale End in May in a small puddle receiving a streamlet.
- Agabus uliginosus.** I have taken three specimens of this rare beetle near Seamer, one of them a female of the dull form peculiar to Britain.
- Agabus unguicularis.** Two examples at Seamer.
- Agabus sturmii.** In the moat in March, and in other ponds.
- Agabus bipustulatus.** Common and general.
- Agabus maculatus.** In rapid parts of the river Derwent from May.
- Ilybius fuliginosus.** In the river at Ayton, at Brompton and at Filey.
- Ilybius ater.** In a pond at East Ayton in June.
- Colymbetes fuscus.** In the Castle moat.
- Hydrobius fuscipes.** The commonest water-beetle in the district.
- Anacæna globulus.** Common and general.
- Laccobius sinuatus.** Filey.

- Laccobius alutaceus.** Filey, in company with the foregoing.
- Laccobius bipunctatus.** Very common in ponds at Ayton.
- Limnebius truncatellus.** In the river at Ayton and in ponds
- Limnebius nitidus.** Puddle at Cornelian Bay.
- Helophorus nubilus.** Filey Cliffs.
- Helophorus aquaticus.** Common and general.
- Helophorus brevipalpis.** Common and general.
- Helophorus arvernicus.** In the river Derwent in Forge Valley.
- Henicocerus exsculptus.** Under stones in the river at Ayton.
Scarce.
- Ochthebius pygmæus.** Cornelian Bay, and at East Ayton.
- Ochthebius bicolon.** With the foregoing.
- Hydræna palustris.** As this species has always been considered peculiar to stagnant water, I was much surprised at taking a specimen under a stone at the mill-dam at Ayton. Hitherto Askham Bog was the only locality known for this rare insect in the North.
- Hydræna angustata.** Of this almost equally rare *Hydræna*, I took one example in the river at West Ayton in April.
- Hydræna gracilis.** The commonest species of the genus in this district. I have taken it at Langdale End, Lowdales, and Ayton.
- Cyclonotum orbiculare.** Pool near White Nab.

This list contains five species not (to my knowledge) hitherto recorded for Yorkshire, viz., *Hydroporus discretus*, *Laccobius alutaceus*, *Helophorus arvernicus*, *Hydræna angustata*, and *Ochthebius bicolon*.

June 22nd, 1894.

THE BIRDS OF WEST CHESHIRE.

Birds of West Cheshire, Denbighshire, and Flintshire: | Being a List of Species occurring in the District of the Chester | Society of Natural Science. | — | By W. HENRY DOBIE, M.B., M.R.C.S., | Member of the British Ornithologists' Union. | . . . Proceedings of the Chester Society of Natural Science and Literature, Part 4, 1893, pp. 281-351, and map.

THE writer of this excellent list, of which a reprint (which it is satisfactory to know has not been re-paged, as it is the habit of many philistine printers to do when not watched) from the Chester Society's proceedings lies before us, is to be warmly congratulated on its production. It adds another link to the completion of the chain of county avifaunas for our northern area, of which, middle and southern Lincolnshire and eastern Cheshire are the only portions that still remain without their lists of birds. The district

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selected appears of somewhat 'mixed' sort, but Chester is a border city, and therefore scope for the energies of its citizens must be given them in every direction, and not restricted to the limits of any one county. But why the eastern half of the county palatine itself should be deliberately excluded is by no means so clear.

Mr. Dobie has spared neither pains nor trouble to make his list full and complete, nor have others hesitated to place their stores of information at his disposal, points which are evidenced by the introductory remarks, and by the list of initials of contributors' names given at the end.

The number of birds placed on the list for the whole district is 239, consisting of 223 considered to have occurred in a wild state, and of 16 which are either doubtful, extra-limital, or not wild. Of these, nine species are recorded for other than Cheshire localities, leaving the list of West Cheshire birds at 230 in all. The rarities are not many, owing to the fact that the whole area lies away from the great migration-routes and therefore catches but very few stragglers.

Brockholes' List of the Birds of Wirral, which is now very scarce, is for convenience incorporated and quoted literally under each species.

It is one source of satisfaction to know that local specimens are made a special feature of the Grosvenor Museum at Chester and that such examples are duly recorded in the list under consideration. Although we would in the strongest possible manner deprecate the slaughter of rarities, it is yet better that such examples as are killed should find their place in a public institution rather than in private hands. This fate has not befallen the Nightingales which are recorded as having occurred in the district, so that the records are to that extent uncertain, and we should take it that the occurrence of that bird in Wales, perhaps in Cheshire too, requires confirmation.

The large map which is given, will prove very useful in making out the distribution given in the list.

NOTES AND NEWS.

A bust of Charles Waterton, executed in 1865 (the year in which he died at the age of 83) by the late Mr. W. Hawkins, has been presented to the Linnean Society by the trustees of the late Mrs. Pitt Byrne (née Busk). It is an excellent likeness, and the only bust of him existing. The only accessible portrait is a small engraving by Adlard, which forms a frontispiece to the third volume of the 'Essays on Natural History,' from an original oil painting by C. W. Peale, made in Philadelphia in 1824, when Waterton was in his 42nd year. A comparison of the portrait with the bust shows a correspondence which is remarkable, allowing for the forty years which elapsed between the two sittings.

BIRD-NOTES FROM THE HUMBER DISTRICT.

JOHN CORDEAUX, M.B.O.U.,
Great Cotes House, R.S.O., Lincoln.

(Continued from page 43, 1894.)

Saxicola œnanthe L. **Wheatear.** March 24th. The first was seen near the Spurn at this date by Mr. Hewetson. On May 6th, at Flamborough, I saw many large, fine-plumaged birds; these were generally perched on rails and hedges. On the 7th there was a sprinkling of them in fields all along the coast on the north side of the Headland. On the 8th all appeared to have left. Again on the 10th, wind W. and strong, there was a large arrival. In the sheep-walk, nearest to Lloyd's Signal Tower, they had congregated in large numbers, but at the same time kept together in pairs. All these appeared to belong to the large race which in May passes through the country en route perhaps for Greenland by way of Shetland and Farøe. In North Lincolnshire the local name of the Wheatear is 'Land-checker.'

Ruticilla titys (Scop.). **Black Redstart.** March 24th. Mr. H. B. Hewetson saw three near the Spurn lighthouses, one being an adult male, the other two presumably males of the previous year in the slaty-grey plumage. On the 31st a fourth was seen also in the same locality.

Sterna minuta L. **Little Tern.** April 14th. First seen at the Spurn.

Ampelis garrulus L. **Waxwing.** April 23rd. A pair of these beautiful visitors were seen on a hedge by the road-side near Patrington Mill, by Mrs. Hewetson, her son, the driver Baum of Easington, and another, all of whom know them and can speak to their identity. The carriage was stopped and a very near view obtained by the whole party. This is a remarkably late date for Waxwings to be seen in this country.

Larus leucopterus Faber. **Iceland Gull.** May 8th. On this evening I was fortunate in seeing an Iceland Gull in company with a dozen immature Herring Gulls, circling and stooping to feed on floating fish offal at high water at the north landing-place at Flamborough. This bird was almost pure white, or cream, with a few very pale brown markings on the wing-coverts, legs and feet flesh-coloured, bill brownish. This is the last and most interesting plumage before becoming mature. When resting on the green summit of the opposite cliff along with the Herring Gulls, the difference between the two was very

apparent; not only was the colour distinct, but the build of the bird was quite different, longer and more slender; it also stood higher, and the immensely long wings extended in a straight line beyond the tail. In flight this length of wing was very conspicuous. I noticed it was much the boldest of the lot, and came in sweeping just above the beached boats. Twice it sailed up a gully, within half-gunshot, below where I stood on the upper cliff slope. It was master of the other gulls, for when one happened to stoop with it at the same tit-bit it made a half-dash, driving it on one side, and quickly appropriated the morsel to itself. It finally left its companions, flying straight out to sea.

Corvus corone L. Carrion Crow. May 2nd. A pair early this morning were carrying beak-fulls of dead grass to a ledge of one of the Flamborough cliffs, where evidently they intended nesting. Rock Pipits were also employed in the same way, the position chosen by the latter being the lower edge of the steep green slope of the upper cliff, and quite inaccessible without a rope.

Corvus cornix L. Hooded Crow. May 8th. When walking with Mr. Bailey to-day we saw one; I saw others on the 9th, and again a single bird on the 26th, between Welwick and Easington. These may have been cripples or in some way suffering from injuries which prevented them crossing the sea.

Passer montanus L. Tree Sparrow. May 3rd. There are several pairs nesting in holes in the masonry of Lloyd's signal tower at Flamborough. With the telescope I could see a pair, both alike in plumage, sitting side by side at the entrance of a hole under one of the window-sills, with the nest distinctly visible in the back-ground.

Carduelis elegans Steph. Goldfinch. May 3rd. I saw a pair near an orchard and garden at Flamborough, and evidently nesting in the locality.

Mergus serrator L. Red-Breasted Merganser. May 4th. There were a pair this morning of these elegant birds on the Bridlington side of the Point of Flamborough Head. I watched them for nearly half-an-hour with the telescope diving for food in the midst of a tremendous surf, brought in by a strong northerly wind; all their actions were most graceful and easy, riding the waves like a cork and often diving under the toppling crest, all the time keeping nearly above one spot and constantly going under. The Merganser is rare on the east coast, and I have altogether only half-a-dozen notes of it in thirty-two years.

- Sula bassana** L. **Gannet.** May 5th. A pair in pied plumage passed the Head this morning, going north in the teeth of a strong wind. The Gannet does not attain the adult plumage before the sixth year.
- Sylvia cinerea** Bechst. **Whitethroat.** May 1st to 10th. Has been uncommonly plentiful between these dates in the hedge-rows of Flamborough, and much the most frequently seen of any of the small summer visitors. Unusual numbers were also observed about Easington and the Spurn country.
- Muscicapa atricapilla** L. **Pied Flycatcher.** March 9th. W., much rain. Early this morning I saw a pretty black and white little bird on the hedge near my lodgings at Flamborough, and, on getting the glasses, found it was a Pied Flycatcher and an adult male; shortly after this I saw two, presumably females, as they had much less white in the wings, and later in the day another adult male on some spiked wires enclosing a garden, and watched him repeatedly fly down and take some small object from the grass. These were all I saw although I walked many miles of hedge-row. Mr. Bailey told me subsequently that on the same day further inland, fifty had been seen on one fence.
- Sylvia curruca** L. **Lesser Whitethroat.** May 10th. This afternoon I saw four of these together with two Willow Wrens in the last dead thorn hedge on the north side of Flamborough. They are well-marked little birds—blue-grey above and silvery white below and dark cheeks. Subsequently I saw others in the hedges. There is evidently a migratory movement going forward.
- Muscicapa grisola** L. **Spotted Flycatcher.** May 15th. First observed in the garden at Great Cotes.
- Falco peregrinus** Tunst. **Peregrine Falcon.** One, an adult male and I should say a very old bird, which I saw in the shop of Mr. Jeffreys at Grimsby, was shot near Marsh Chapel early in April.
- Machetes pugnax** L. **Ruff and Reeve.** May 19th. When dressing this morning I got a note sent in by one of the Marsh shepherds to say that he had seen six birds, not identified, in a pasture near the coast. On driving down I found six Reeves in the next field, and was able to watch them for some time, as they made no attempt to change their quarters. Most of the time they were busily feeding, following each other like Dunlin, running rather quickly with the tibio-tarsal joint much bent. Every now and then one or other stopped to pick some small object from the grass. These were all in summer plumage, very prettily marked on the neck, breast, and sides.

Endromias morinellus (L.). Dotterel. May 20th. The same shepherd sent up word that he had seen a considerable 'trip' of Dotterel near the same place on Sunday evening the 20th. I went into the marsh as early as I could on Monday morning, but did not find them, or anywhere about in the neighbourhood; the season being so advanced they had probably gone forward at once. I am afraid these beautiful and now scarce visitors are still, notwithstanding the Bird Act and close times, much persecuted when they appear. I have heard of several having been shot this spring, but forbear mentioning the special localities. It is to be hoped that the Act may be enforced in the future, by local authorities who become cognisant of the circumstances.

Ægialitis hiaticula (L.). Ringed Plover. May 21st. There were large numbers of these and Dunlin in summer plumage on the Humber muds this morning, also a few Curlew and one Godwit. I could find none on the coast on the 22nd.

A WOODLAND TRAGEDY.

I WAS walking on the western edge of Forge Valley, near Spiker's Hill. An old wall bounds the corn fields from the valley, and under its mossy stones a somewhat local shell (*Balia perversa* L.) is plentiful. As I was collecting some specimens of it, my attention was arrested by the piercing shrieks (for I cannot better describe the sounds I heard) of two birds. Following the cries, I found they proceeded from the vicinity of a gnarled and twisted hawthorn bush that overhung the steep side of the valley, and I soon discovered they were made by a pair of excited blackbirds. Peering carefully into the hawthorn bush, I with difficulty detected their nest, formed largely of moss, which the constant rains had kept so green that it was hardly distinguished from the leaves that surrounded it. I put my hand into the nest, and found several half-fledged birds. I then stood quietly on one side to see what would ensue. I had not long to wait. In less than a minute a pale, reddish-brown creature, horribly lithe in its movements, glided almost serpent-like up the twisted stems of the bush till it reached an object entangled among the thorns. Then it caught sight of me, and was gone quicker than the eye could follow. Going up to the bush, I found the object entangled in it was a young bird dragged from the nest, dead, but quite warm. It had been seized by the throat. As I held it in my hand, with the blood upon its downy breast, thinking of the anxious care with which it had been reared and its early end, and listening to the lament of the bereaved parent birds, the words of Tennyson rose instinctively to my lips, 'The whole little wood where I sit is a world of plunder and prey.' I passed on through the waving ferns and budding thistles, and for long the note of the sorrowing birds, changed now from a shriek to a piteous 'tweat,' was borne to my ear. A buoyant skylark sprang to the sky, and flooded the air with unutterable ecstasy, but the plaintive note of the weeping mother broke in upon the triumph song and made it jar upon the heart. Will the weasel return day after day to that nest and take another nestling, and another, till all are gone—making a long agony to the parents? Paul wrote truth when he exclaimed, 'The whole creation groaneth and travaileth in pain together until now.' Communion with nature is not always solace.—W. C. HEY, June 23rd, 1892.

NATURAL HISTORY NOTES FROM WHITBY, 1892—1894.

THOMAS STEPHENSON,

Hon. Curator to the Whitby Museum.

MAMMALIA.

March 28th, 1892.—A large Seal (*Phoca vitulina*) came into Whitby Harbour this afternoon, and, after proceeding above the bridge, returned and went out to sea; it was seen by many people, but not by myself, being too busily engaged.

April 25th, 1894.—An Otter (*Lutra lutra*) trapped at Lealholm Bridge a few days previously, was this day turned down, and after a short hunt killed at that place.

BIRDS.

Nov. 6th, 1891.—Little Grebe (*Podiceps fluviatilis*) shot near the viaduct between Whitby and Ruswarp, by John Kitching.

Nov. 11th.—Another was this day killed in Whitby Harbour, opposite the Museum, during stormy weather and a heavy fresh.

Nov. 28th.—Storm Petrel (*Procellaria pelagica*) was captured.

Nov. 19th, 1892.—Spotted Crake (*Porzana maruetta*) killed by the telegraph wires on the Scarborough and Whitby Railway, near Stainsacre; preserved by Mr. J. H. Wilson.

Nov. 11th.—Two Swallows (*Hirundo rustica*) seen near the Cemetery by Mr. James Webster, the superintendent.

December.—Black-headed Gulls (*Larus ridibundus*) were observed in and about Whitby Harbour.

Jan. 1893.—These Gulls in great numbers during the cold weather frequented this place, and through the summer months one and two pairs were frequently, in fact almost daily, observed, leading me to suppose they were breeding somewhere in or near this locality, as later on some mature and several immature birds were noticed till the month of August, since which time (till January 1894) I have neither seen a mature specimen nor heard of one being observed, although many immature birds remained with us through winter.

March 11th.—A mature specimen (male) Peregrine Falcon (*Falco peregrinus*) was trapped at Goathland.

April 30th.—Two Lesser Black-backed Gulls (*Larus fuscus*) were observed in Whitby Harbour.

- May 19th.—Several Quails (*Coturnix communis*) were heard and seen near Mayfield and Ruswarp, and supposed to have bred there. 'On Saturday [20th May] a dead Quail was picked up on the railway, having evidently been killed by the telegraph wires.'—Whitby Gazette, May 26th, 1893.
- May 28th.—A Raven (*Corvus corax*) was seen by George Kitching and William Bell on Stape Moor.
- June 27th.—A Redshank (*Totanus calidris*) was shot at Goathland.
- July 1st.—Two Lesser Black-backed Gulls (*Larus fuscus*) were seen here.
- Jan. 7th, 1894.—Numbers varying from five or six to about two hundred Scaup and other Ducks frequented Whitby Harbour, the Rock, and vicinity from this date to about the middle of March; several were shot, all of which proved to be Scaup Ducks (*Fuligula marila*).
- Jan. 11th.—A Lesser Black-backed Gull (*Larus fuscus*) was seen in the harbour by George Kitching.
- Jan. 26th.—Two Coots (*Fulica atra*) seen in Whitby Harbour and remained several days.
- Jan. 26th.—Short-eared Owl (*Asio accipitrinus*) captured at Raithwaite.
- Jan. 30th.—Mature Black-headed Gull (*Larus ridibundus*) seen in Whitby Harbour; and subsequently several were observed, many of the immature birds having been changing for summer plumage.
- Feb. 21st.—I saw a bird diving near the West Pier which appeared, by the aid of my telescope, to be a Bridled Guillemot.
- Feb. 23rd.—A Razor Bill (*Alca torda*) in the harbour, which a fisherman killed afterwards with an oar.
- March 29th.—Ray's Wagtail (*Motacilla raii*) heard and seen by George Kitching up the river near the gasworks.
- April.—A Wigeon (*Mareca penelope*) was seen outside Whitby Harbour for three or four days.

FISHES.

- April 2nd, 1892.—A large number of Cod (*Gadus morrhua*), Haddock (*G. aeglefinus*), Whiting (*G. merlangus*), Flat Fish (various species), Wolf-fish (*Anarrhichas lupus*), and Anglers, here called Devil-fish (*Lophius piscatorius*), were brought into Whitby by the trawler 'Taskar,' of Scarborough.
- Nov. 18th.—A fine specimen of Red Gurnard (*Trigla cuculus*) was caught by — Patten and brought into Whitby.
- Sep. 28th, 1893.—Large Garfish (*Belone vulgaris*) was brought into the Harbour.

Nov. 2nd.—Ballan Wrasse (*Labrus maculatus*) was caught near the Rock and brought into Whitby.

Nov. 11th.—A Salmon (*Salmo salar*), weighing 7 lbs., was caught on an ordinary line from Andrew's Steps, Pier Side, on Thursday last week, with a mussel bait.—Whitby Gazette, Nov. 17th, 1893.

Nov. 14th.—Ray's Sea Bream (*Brama raii*) was washed up on the sands and picked up by — Marshall. I did not see it, but from the description given and rough sketch made of it by John Kitching, who had examined it, I concluded it was Ray's Sea Bream, and showing Kitching a preserved specimen of this fish in the Museum, he immediately identified it.

MOLLUSCA.

Dec. 20th, 1893.—A large Calamary, or Sea Sleeve, called here Squid (*Loligo vulgaris*) was washed up on the beach and brought on the pier to be sold for bait. It was sold for that purpose, and brought 4s. 9d. It measured 29 inches in length, width of tail 17 inches, and girth of body 18½ inches.

CRUSTACEA.

April 1894.—A fine specimen of *Galathea strigosa* was captured off Whitby in a lobster trap and given to me by Chr. Egton.

April 26th.—Sea Cray or Crawfish (*Astacus norvegicus*) was caught in a lobster trap by — Richardson and brought into Whitby.

NOTE—MAMMALIA.

Rats in a Trout Hatchery.—This year some rats (*Mus decumanus*) obtained an entry into our hatchery at Knaresborough, and finding their way into the trays, which were full of ova, they sampled them, and finding them to suit their taste, they caused considerable destruction before they were found out. As the eggs when in the trays are covered to the depth of about an inch with running water, the rats would have to grope with their noses under water to secure the dainty morsels.—R. FORTUNE, Harrogate, June 14th, 1894.

NOTE—BOTANY.

Prunus cerasus at Harrogate: a New Record for the Nidd drainage area.—During the early part of May last, I observed the following plant which I believe has not been previously recorded for the Nidd drainage: *Prunus cerasus*: three bushes in hedge about a quarter of a mile west of the old Sulphur Well, one of which at the present time is fruiting sparingly.—JOHN FARRAH, Crescent Road, Harrogate, June 19th, 1894.

NOTE—FUNGI.

Morell and Jews' Ear near Harrogate.—*Hirneola auricula-judaica*—'Jews' Ears,' and *Morchella esculenta*—the 'Morell,' were fairly abundant on a sandy portion of the south bank of the Nidd at Killinghall Bridge during the early part of May.—JOHN FARRAH, Crescent Road, Harrogate, June 19th, 1894.

July 1894.

NOTES—ORNITHOLOGY.

Early Appearance of the Tree Pipit at Harrogate.—This year Tree Pipits (*Anthus trivialis*) appeared in some numbers as early as March 18th, quite a month before their usual time. What could be the cause of this? Other migrants arrived a little later than usual.—R. FORTUNE, Harrogate, June 14th, 1894.

Flamborough Bird-Notes.—The fishermen of Flamborough inform me of having seen several Manx Shearwaters (*Puffinus anglorum*) along the coast; also the Sandwich Tern (*Sterna cantiaca*), Oyster-Catcher (*Haematopus ostralegus*), and Curlew (*Numenius arquata*), are frequently to be seen. Mr. David Atkinson informs me that he saw, on June 7th this year, from 20 or 30 Dotterels (*Eudromias morinellus*), on Airy Hill, near to Dotterell Inn, Reighton, which I should think is rather late in the season.—MATTHEW BAILEY, Flamborough, June 18th, 1894.

Greater Spotted Woodpecker at Riding Mill-on-Tyne, Northumberland.—I saw a specimen of this bird (*Dendrocopus major* L.) on the evening of the 10th of May while walking round by the sea. It came from a clump of trees by the Dipton Burn, and flew to a wood near at hand. This bird is very rare in the North of England. John Hancock, in his 'Birds of Northumberland and Durham,' mentions only eight instances of its occurrence between 1830 and 1868—one entry of its nesting being not far from where I saw the present bird—and the Rev. H. H. Slater, F.Z.S., possesses a specimen obtained near Corbridge-on-Tyne in 1872.—H. T. ARCHER, Lombard Street, Newcastle-upon-Tyne. June 4th, 1894.

NOTES AND NEWS.

The seventh part of the third volume of the Linnean Society's Botanical Transactions, published a year or two ago, is devoted to a paper on 'The Caoutchouc-containing Cells of *Eucommia ulmoides* Oliver,' from the pen of Mr. F. Ernest Weiss, B.Sc., F.L.S., who has since become Professor of Botany at the Owens College, Manchester.

Some time ago we received from the Leeds Public Librarian a copy of the Catalogue of the Natural History Department of the Reference Library. The price is but two pence, and the catalogue runs to 144 closely printed pages. The Leeds Public Library possesses a most excellent and wonderfully complete library of natural history books, and there will be but few similar institutions that provide better pabulum for the naturalists of their town or city. Moreover, the Committee are always ready to further the study of natural history in more ways than one—and a meeting-room in close proximity to the Library is available for the use of Scientific Societies, including the Leeds Naturalists, Astronomical, Philatelic, and Thoresby Societies, all of which have their own libraries housed there, under the wing of the larger institution.

We have not before had space to notice the appearance of a new and high-priced monthly journal of generalities, 'Science Progress,' the first number of which appeared on the 1st March, but which we have not seen. From the prospectus, however, we gather that this journal will steer clear of the mistake sometimes made of being edited anonymously. The fact of a criticism being anonymous destroys to our mind somewhere about 75 per cent. of its value; and the new journal, with the formidable array of great names on its title page, will so far command corresponding influence.

The 8th part of Vol. 5 of the Zoological portion of the Linnean Society's Transactions is devoted to a paper by Professor L. C. Miall, F.R.S., F.L.S., of Leeds, in conjunction with Mr. A. R. Hammond, F.L.S., upon 'The Development of the Head of the Imago of *Chironomus*,' a genus of Diptera which they are working out in great detail. We are pleased to observe that the authors have taken care to call in the aid of a specialist in diptera to ensure the correct identification of their material, and that Mr. R. H. Meade, of Bradford, identifies the species upon which 'much' of their work is done as *C. dorsalis* Meig. = *C. venustus* Zett.

A CRITICAL CATALOGUE OF LINCOLNSHIRE PLANTS:

FROM ALL KNOWN SOURCES.

REV. E. ADRIAN WOODRUFFE-PEACOCK,

*Vicar of Cadney, Brigg; Botanical Secretary of the Lincolnshire Naturalists' Union;
Curator of the Lincolnshire County Herbarium.*

THIRD PAPER.

(First Paper, giving all explanations, Nat., March 1894, pp. 85-92.)

HYPERICINEÆ (*Continued*).

Hypericum calycinum L.† Another garden escape with rubbish.
N.—Ferriby Road Chalk Pit, Barton-on-Humber†, 1891,
Miss Firbank. S.—Leadenham, 1865; Mr. G. W. Burtt, in
his Herb.

Hypericum perforatum L.† Native. N.—11. S.—7.

VAR. **angustifolium** Gaud.† Native. N.—4. S.—Bourn Wood†,
1837; Rev. J. Dodsworth (Ar. B.). 'The prevailing form in
sandy districts, as about Rasen in N;' Mr. F. A. Lees.

Hypericum dubium Leers.† Native. N.—Legsby, and lane
near second railway gate-house, north of Rasen†; Mr. F. A.
Lees, B.R.C., 1877. S.—3. Proof spms. of latter in Miss Stow's
Herb. and Mr. H. Fisher's Herb.

Hypericum tetrapterum Fr.† Native. Apparently quite common
N. and S. This I take to be the *H. quadratum* Stokes of
Mr. F. A. Lees' *Outline Flora* and the *Lond. Cat.* It is
often confounded with the last, I believe.

Hypericum humifusum L.† Native. N.—13.† S.—3.†

Hypericum pulchrum L.† Native. N.—9.† S.—4.

Hypericum hirsutum L.† Native. N.—5. S.—6. 'Common
on the Oolite and Lias'; Rev. W. Fowler, B.R.C., 1877.

Hypericum montanum L. Native or escape. N.—Broughton
Wood; Rev. W. Fowler, B.R.C., 1876. Herb. Brit. Mus.

Hypericum elodes Huds.† Native. N.—5.† S.—No record.

MALVACEÆ.

Althæa officinalis L.† Native. Common in fens N. and S. of
river Witham.

Malva moschata L.† Native. Apparently fairly common N.
and S.

VAR. **flore albo.**† N.—Barnetby, 1862; Mr. James Britten.
Woodhall Spa,† 7-8-'92.

Malva sylvestris L.† Native. Common **N.** and **S.**

Malva rotundifolia L.† Native. Not quite so common as the last, **N.** and **S.**

TILIACEÆ.

Tilia platyphyllos Scop.† A planted alien **N.** and **S.**

Tilia vulgaris Haybe.† A planted alien **N.** and **S.**

Tilia cordata Mill.† Native? Found **N.** and **S.** John Ray says—'Abundat insuper in agro Lincolnensi circa Horncastle, Ragby, etc., in sylvis,' 1670. Mr. F. A. Lees has a manuscript note—'Seen in the same district in young brushwood (Skellingthorpe), August 1st, 1878, by W. Fowler and F. A. Lees (in company), not appearing to have been planted.'

LINEÆ.

Radiola linoides Gmel.† Native. **N.**—Near Gainsborough, before 1810. Salt Herb., Sheffield. Crosby Warren; Rev. W. Fowler, B.R.C., 1875. **S.**—Doddington,† 22-9-'62; Rev. R. E. G. Cole.

Linum catharticum L.† Native. Common **N.** and **S.**

Linum perenne L.† Native. **N.**—J. Ward records it for High Toynton, 1820. No confirmation. **S.**—Stamford to Ryhall Tollbar,† 9-7-'38; Rev. J. Dodsworth (Ar. B.). Confirmed 1893. Somerby-by-Grantham, 10-6-'84; Miss S. P. Escritt. Nottingham Mus. Herb. Ancaster to Somerby, and High Dyke, Grantham, 6, 1886; Mr. H. Fisher's Herb.

Linum usitatissimum L.† An escape, or more often planted. **N.**—4. **S.**—2.

GERANIACEÆ.

Geranium sanguineum L.† Native, I suppose. **N.**—Broughton Wood; Gough, 1789; Miller, 1847; Rev. W. Fowler, 1875. Woodhall Spa, 6, 1893; Miss M. Lane-Claypon's *Paintings*. **S.**—On the authority of a Mr. Hill, Blackstone's *Specimen Botanicum*, 1746, records it for Lincoln Heath.

Geranium striatum L. An escape. **N.**—Ulceby-cum-Fordington, 27-7-'88; Mr. J. Burtt Davy (F. A. L.). Well, 16-6-'86; Mr. Chandler (J.B.D.), Chandler Herb. This plant has been in one station—entrance of the Chalk Pit, Well Vale—since 1840, Mr. J. Burtt Davy tells me on first-hand authority.

Geranium phæum L.† An escape or planted alien. **N.**—Belleau,† 6, 1892; Miss Mackinder. Saxby Road,† 28-5-'93; Misses M. and J. Wylie. **S.**—Fulbeck, 1892; Mrs. Davy. Nocton, 1893; Mr. D. Bratt.

Geranium pratense L.† Native. Fairly common **N.** and **S.**

- Geranium pyrenaicum** Burm. f.† Alien. **N.**—Osgoldby; †
Mr. F. A. Lees, B.R.C., 1877. **S.**—3. Herb. Brit. Mus. and
Fisher Herb.
- Geranium molle** L.† Native. Common in **N.** Not quite so
common in **S.** apparently.
- Geranium pusillum** Burm. f.† Native. **N.**—4. **S.**—3.
- Geranium dissectum** L.† Native. Common in **N.** Apparently
not so common in **S.**
- Geranium columbinum** L.† Native. Fairly common in **N.**
S.—Corby; Rev. W. Fowler, B.R.C., 1879.
- Geranium lucidum** L.† Native. **N.**—6. **S.**—Manthorpe;
Mr. E. M. Browne, B.R.C., 1879. Herb. Brit. Mus.
- Geranium Robertianum** L.† Native. Common **N.** and **S.**
- Erodium cicutarium** L'Hérit.† Native. Common in **N.** I have
only two localities for **S.**
- VAR. **chærophyllum** Cav.† Native inland. **N.**—Frodingham†,
19-9-'87; Miss M. A. Wylie (Ar. B.). Spilsby, 5, 1892;
Mr. Burgess' *Paintings*.
- VAR. **triviale** Jord.† Native on coast. Mablethorpe! 12-6-'93
(F. A. Lees).
- Oxalis acetosella** L.† Native. **N.**—12.† **S.**—3.†
- Oxalis corniculata** L.† A garden weed, and rubbish-heap escape.
N.—Kirton-in-Lindsey! 7, 1893.
- Oxalis stricta** L.† Alien escapes from gardens. **N.**—Hundon,
by Caistor, 8, 1862; Mr. James Britten. Another spm., marked
N. without parish, collected by Mr. F. A. Lees, is in Mr. J.
Saunders' Herb. **S.**—Nocton, before 1850, Miss Stovin.
Bourn,† 1836; Rev. J. Dodsworth (F.A.L.). The last two spms.
are wrongly named *O. corniculata* L.
- Impatiens noli-tangere** L.† An escape. **N.**—South Kelsey,
1885-6; Rev. H. C. Brewster. Now extinct. **S.**—Boultham
Wood, 1893, Rev. R. W. Goodall's Herb.
- IMPATIENS PARVIFLORA** DC. Alien. **N.**—East Keal, 7, 1889.
Mr. Burgess' *Paintings*. **S.**—Woolsthorpe, 1893, Rev. A. E.
Gillett. Spms. not seen.

ILICINEÆ.

- Ilex aquifolium** L.† Native, but generally an escape, I imagine.
N.—8. **S.**—Doddington, 1858, Rev. R. E. G. Cole. There are
some 'sub-fossilised leaves' from **N.**—Sutton-on-Sea, in the
Banks' Herb., Brit. Mus., 9, 1796.

CELASTRINEÆ.

- Euonymus europæus** L.† Native, I suppose, but often planted.
N.—9. **S.**—7.

RHAMNEÆ.

Rhamnus catharticus L.† Native. N.—11. S.—3.

Rhamnus Frangula L.† Native. N.—11. S.—3.

SAPINDACEÆ.

Acer Pseudo-platanus L.† Planted alien, which seeds freely and grows rapidly. N.—10. S.—4.

Acer campestre L.† Native. Common N. and S.

STAPHYLEA PINNATA L. A planted alien, or shrubby escape. S.—‘It groweth also in the Fryer-yard, without Saint Paul’s Gate, in Stamford; and about Spalding Abbey.’—Thomas Johnson’s Gerard, 1633. I have no modern record of it as an escape.

LEGUMINOSÆ.

Genista anglica L.† Native, but slowly dying out. N.—16. S.—3.

Genista tinctoria L.† Native, but dying out too. N.—12. S.—7.

Ulex europæus L.† Native and common N. and S.

Ulex Gallii Planch.† Native. N.—Linwood Warrent† and elsewhere about Market Rasen, 8, 1877; Mr. F. A. Lees, from his Herb. In their dried state I can discover no difference between this species and the next in the Cty. Herb. spms.

Ulex nanus Forster.† Native. N.—Gainsborough to Marton,† 1878; Mr. F. A. Lees. S.—Doddington,† 22-9-’55; Rev. R. E. G. Cole. (Both seen by Ar. B.)

Cytisus scoparius Link.† Native, but rather rare I find. N.—10.† S.—Doddington,† 10-6-’55; Rev. R. E. G. Cole.

Ononis arvensis Koch.† Native. N.—12. S.—8.

VAR. *FLORE ALBO*. N.—East Barkwith to South Willingham, 12-7-1878; Mrs. Jarvis.

Ononis spinosa L.† Native. N.—Cadney,† 2-8-’91. Minting, circa 1888; Mrs. Jarvis. S.—Doddington, 1891; Rev. R. E. G. Cole. Fulbeck, 1892; Mr. J. B. Davy. Court Leys, Caythorpe, 1893; Miss Stow.

Medicago sativa L.† An escape from cultivation. N.—4. S.—5.

Medicago lupulina L.† Native. N.—14. S.—3.

Medicago denticulata Willd. Alien. N.—Market Rasen, 1879; Mr. W. Allen. Mr. J. Saunders’ Herb.

Medicago maculata Sibth.† Native or casual. N.—4. Hubbard’s Valley, Louth, 1886; Mr. J. Saunders’ Herb. Scabcroft, 1875; Rev. W. Fowler. Herb. Brit. Mus. S.—Wyberton! 17-4-1894; Miss Lane-Claypon’s *Paintings*.

MEDICAGO MINIMA Ders. This appeared in Mr. F. A. Lees' *Outline Flora*, on account of a misunderstanding between us. It has never been found as a casual in the county to my knowledge.

Melilotus altissima Thuill.† Native. Not uncommon **N.** and **S.**

Melilotus alba Ders.† Native? **N.**—5. **S.**—3.

Melilotus arvensis Willd.† Naturalising alien. **N.**—6. **S.**—3.

Melilotus parviflora Lam.† Alien with foreign wheat. **N.**—
Kirton Station, by Flour Mill, 8, 1893; Miss M. G. W. Peacock.

Trifolium subterraneum L.† Native. **N.**—Near Lea, before 1846; Rev. J. K. Miller. **S.**—Hykeham Station, † 24-5-'94; Mr. F. M. Burton.

Trifolium pratense L.† Native, but often an escape. Common **N.** and **S.** The species I have examined were *T. sativum* Syme, which is not a native.

Trifolium medium L.† Native. **N.**—3. **S.**—3. Herb. Brit. Mus. and Miss Lane-Claypon's *Paintings*.

Trifolium ochroleucum L. Native? 'An uncommon Lincs. plant'; Rev. W. Fowler, *Nat.*, Dec. 1889. **N.**—Rigsby-cum-Ailby, on boulder clay; Mr. J. Burt-Davy. **S.**—Grantham, 1879; Mr. E. M. Browne. Herb. Brit. Mus. Gough and Thompson record it also.

Trifolium maritimum Huds. Native. **N.**—Near Great Grimsby, 1881-2; Mr. H. Searle. Bennington, 1893; Mrs. Disbrowe. Skegness, 6, 1890; Miss Lane-Claypon's *Paintings*. No record for **S.** Herb. Brit. Mus. and Mr. Ar. Bennett's Herb.

Trifolium incarnatum L. An escape from cultivation. **N.**—2. **S.**—2. Mr. G. W. Burt's Herb. and Mr. Burgess' *Paintings*.

Trifolium arvense L.† Native. **N.**—Common. **S.**—3.†

Trifolium striatum L.† Native, but rare. **N.**—3.† **S.**—2.†

Trifolium scabrum L.† Native. **N.**—6. **S.**—Wilsthorpe Warren, Ancaster, 1838; Dr. Latham in Dodsworth. Miss Lane-Claypon's *Paintings*.

Trifolium hybridum L. An escape from cultivation. **N.** and **S.** Herb. Brit. Mus.

VAR. *elegans* Savi.† Is the commoner form. It is in the County Herbarium from **N.** and **S.**

Trifolium repens L.† Native, but very often an escape. Common **N.** and **S.**

Trifolium fragiferum L.† Native. **N.**—18.† **S.**—Grantham, 1789 ; Richard Gough. Is my only record.

Trifolium procumbens L.† Native. Common **N.** and **S.**

Trifolium minus Sm.† Native. **N.**—7.† **S.**—3. Miss Lane-Claypon's *Paintings*.

TRIFOLIUM FILIFORME L. In the Thompsonian *List*. The last species is meant, I believe.

Anthyllis vulneraria L.† Native. Fairly common **N.** and **S.**

Lotus corniculatus L.† Native. Common **N.** and **S.** Only the type form I believe.

Lotus tenuis Waldst. & Kit.† Native. **N.**—5.† **S.**—2.†

Lotus uliginosus Sck.† Native. Common **N.** and **S.**

VAR. hirsutus Syme.† Barton-on-Humber, 1892 ; Miss Firbank (Ar. B.).

Astragalus Hypoglottis L.† Native. **N.**—8.† **S.**—4.†

Astragalus glycyphyllus L.† Native. **N.**—4.† **S.**—3. Herb. Brit. Mus.

Ornithopus perpusillus L.† Native. Fairly common **N.** and **S.**

Hippocrepis comosa L.† Native. **N.**—2.† **S.**—3.†

Onobrychis sativa Lam.† An escape from cultivation **N.** and **S.**

Vicia hirsuta Koch.† Native. Fairly common **N.** and **S.**

Vicia tetrasperma Moench.† Native. **N.**—8.† **S.**—2. Miss Lane-Claypon's *Paintings*.

Vicia cracca L.† Native. Very common **N.** and **S.**

Vicia sylvatica L.† Native. **N.**—4. Blyth Coll. and Mr. Burgess' *Paintings*. **S.**—Bourn and also Witham-on-the-Hill,† 1837 ; Rev. J. Dodsworth.

Vicia sepium L.† Native. **N.**—9.† **S.**—3.

VICIA LUTEA L. In the Thompsonian *List*. This catalogue contains 294 so-called indigenous Skirbeck Hundred plants—which lies almost wholly in **N.** It was the work of Pishey Thompson, assisted by 'the scientific knowledge and careful revision' of Thomas A. Cammack, M.D., H. R. Gilson, and the Rev. Thomas W. Mathews ; all of the immediate neighbourhood. Not a particle of evidence appears to remain from specimens or MSS. as to the critical capacity of any one of the four, and from internal evidence the *List* is far from satisfactory. Their plant may have been a ballast casual, as my next entry proves, but had they not included *V sativa* L., I should certainly have regarded it as the species meant. But in justice

to four dead men, who cannot defend their work, I should add that they placed *Myosurus minimus* L. in their *List*, and since I went to press with my first paper, Mrs. Disbrowe has proved to me that it still existed at Benington as late as twenty years ago, and Miss Lane-Claypon has shown me it growing in a grass field by the side of the Great Northern Railway line, in **S.**—Wyberton, just beyond the Skirbeck Hundred border. It is now in the County Herb.

VICIA HYBRIDA L. **S.**—Swan-Pool, near Lincoln, Hooker and Arnott's *Brit. Flo.*, 1850, 6th ed., p. 110. A ballast casual without doubt.

Vicia sativa L.† An escape from the tare-fields. **N.**—8. **S.**—2.

Vicia angustifolia Robh.† Native. **N.**—6. **S.**—Hartsholme, 26-6-'56; Rev. R. E. G. Cole.

VAR. *Bobartii* Forster. Native? **N.**—Woodhall Spa; Rev. W. Fowler, B.R.C., 1883. Mr. Burgess' *Paintings* figure a spm. from East Keal, 6, 1891, which looks like this variety. Herb. Brit. Mus.

Vicia lathyroides L. Native. **N.**—Gibraltar Point; Mr. F. A. Lees, B.R.C., 1878. Winthorpe, 5, 1879; Burgess' *Paintings*. Skegness, 1891; Rev. G. S. Streatfield.

Nat., 1893, p. 327. Herb. Brit. Mus.

Lathyrus aphaca L.† Alien. Lincoln neigh., 1849; Dr. B. Carrington, *Bot. Gaz.*, 1849, pp. 323, 324. **N.**—Morton,† 10-6-'93; Mr. F. A. Lees.

Lathyrus nissolia L.† Alien. **S.**—Sutton St. Nicholas,† 1865?; Mrs. Welburn. There in 1892! Near Lincoln, **N.** or **S.** not known; Dr. B. Carrington, *Bot. Gaz.*, 1849, pp. 323-24.

Lathyrus pratensis L.† Native. Common **N.** and **S.**

Lathyrus tuberosus L. Extinct casual? **S.**—In the north field of Blankney, near the road to Lincoln; Rev. J. Sedgwick, before 1715. Spms. Buddle and Petiver Herbaria, Brit. Mus. See *Phytol.*, 1861, p. 188.

LATHYRUS SYLVESTRIS L. Doubtful, to say the most for it. **N.**—Skegness; Mr. M. E. C. Walcott's *Guide to the Coasts of Lincs. and Yorks.*, London, 1861, 8vo. Reported from other sources, but no spms. to hand yet.

Lathyrus palustris L.† Native, and still with us, but dying out rapidly. **N.**—Grainthorpe,† 6-6-'57; Messrs. Bogg (F.A.L.). Near Lincoln,† 1891; Mr. J. S. Sneath. Mr. Arthur Bennett made the following note on this Cty. Herb. spm. :—'Much broader leaved form than the Norf., Camb., etc., plants,

approaching the var. *myrtifolius* A. Gray, of America (N.)' There are other spms. from N.—East Fen in the Banks' Herb. at the Brit. Mus. But all excepting Mr. Sneath's are the ordinary narrow-leaved form. Can this Lincoln spm. be a N. American casual?

LATHYRUS MARITIMUS Bigel. Extinct native? N.—Ingoldmells. See Parkinson's *Theat. Bot.*, 1640, p. 1060, and H. C. Watson's *Cybele Brit.*, Vol. 3, p. 415, as to sp. once existing; also Dr. B. Carrington's paper, *Bot. Gaz.*, 1849, pp. 323-324. I am trying to trace the Carrington spm. at present.

Lathyrus macrorrhizus Wimm.† Native. N.—7.† S.—Doddington†, 21 5-'55; Rev. R. E. G. Cole. Whisby†, 1-7-'92; Mr. J. Burt Davy.

ROSACEÆ.

Prunus spinosa L.† Native. Fairly common N. and S.

VAR. *fruticans* Weihe.† Native. I have only four localities for N., but this cannot represent its occurrence, as it is not often noticed. It flowers three to four weeks later than the type, and seems to me to be nothing but an intermediate form between *P. spinosa* L. and *P. insititia* L.

Prunus insititia L.† Native. Not quite so frequently met with as the last N. or S. At N.—North Kelsey, on Mr. Gibbon's farm, the yellow druped form is plentiful in the hedges along with the common one, I am told.

Prunus domestica L.† Native, or a hedge-row escape. N.—Bottesford! 1864. Cadney! 1893 (F. A. L.). Other places, but I have made no notes, I find.

Prunus avium L.† A doubtful native at best; but now sowing itself freely and growing in woods! and hedge-rows! N. and S.

VAR. *HORTENSIS*. Whether the sweet cherry of our gardens is only a variety of the above I am not in a position to say. I have found it twice by the railroad side among the grass, presumably grown from fruit stones cast from the window of a passing train. N.—Hibaldstow! 21-4-'93. S.—Wyberton! 27-4-'94. In both cases the young plants bore traces of having been mown several times along with the surrounding herbage. In the former case a garden apple, *Pyrus malus* L. var. *hortensis*, a bushy tree three feet high, was close at hand; and not a hundred yards away a garden strawberry, *Fragaria elatior* Ehrh. These latter plants are gone this season, or I missed the spot in looking for them.

THE YORKSHIRE NATURALISTS' UNION AT SEDBERGH.

THE first excursion for 1894 was held at Sedbergh, on Whit-Monday, May 14th. The attendance of members at this, the 108th, meeting was quite up to the usual standard, despite the difficulties of getting to such an extreme corner of Yorkshire. The majority of members arrived on the Saturday, and being fortunately blessed with fine weather, were able to roam about on the Saturday and Sunday, amongst some of the finest scenery in the county of York. In fact, the neighbourhood of Sedbergh is really a part of the Lake district, and both the fauna and flora partake more of the Westmorland than of the usual Yorkshire type. Lofty fells, attaining a height of over 2,000 feet, surround the little market town, and between these fells are the picturesque valleys of the Dee, of the Clough, and of the Rawthey. The heavy rains of the previous week had converted these streams, always very rapid, into foaming torrents, which dashed over their rugged beds, making miniature waterfalls at every few yards.

Through the kind invitation of the Rev. J. H. Mackie, M.A., and Mr. Hugh Richardson, M.A., the members who were spending the week-end in the district, met on Saturday night, at 9 o'clock, at the class-rooms, Sedbergh School, where a very interesting exhibition of maps, books, and natural history specimens had been arranged. A large number of lantern slides, illustrating the scenery and geology of the district, were shown with the limelight, and explanations were given by Mr. Richardson.

Rain fell at intervals on Monday, but this was not allowed to interfere with the programme arranged for the day.

Permission to pass over their estates had been kindly granted by Mrs. F. U. Cotteril-Dormer, Mr. W. P. Boustead, J.P., and Mr. Septimus Udale.

Three routes had been arranged. Mr. John Handley led a party along the banks of the rivers Lune and Rawthey, while a second party, under the leadership of Rev. W. Thompson, M.A., went by Strait Bridge, Dovecote Gill, and Danny Bridge to Garsdale. The third party under the leadership of Mr. Hugh Richardson, M.A., and consisting mainly of geologists, drove to Rawthey Bridge and explored Udale.

The circular issued before the meeting contained a great amount of information. The Geological paragraph was kindly furnished by Mr. Aubrey Strahan, M.A., F.G.S., of H.M. Geological Survey. The remaining portions were almost entirely supplied by Mr. Hugh

Richardson, M.A., Rev. J. H. Mackie, M.A., Mr. J. Handley, Rev. W. Thompson, M.A., and Mr. W. Robinson, all of Sedbergh, and it is entirely due to their united efforts that the meeting was such a success.

By half-past three o'clock the majority of the members had returned to the Bull Hotel, and were soon busily engaged in doing justice to the meat tea there provided, after which short sectional meetings were held, and at 4.15 p.m. the general meeting was held, Mr. R. H. Tiddeman, M.A., F.G.S., the President of the Union, occupying the chair.

The balance-sheet having been duly read and passed, the following new members were elected:—Messrs. J. Lister Petty, Ulverston; Henry Angus, M.B., C.M., Bingley; John Imbery, Halifax; J. J. Baldwin Young, B.A., Sheffield; G. W. Parker, Sheffield; George Kay, Barnsley; Mrs. R. M. Punshon, Oswaldkirk; and the Bradford Public Free Library.

The list of the societies was then read, the following being represented—Barnsley, Liversedge, Leeds Naturalists', York and District Field Naturalists', Conchological Society, Leeds Geological, Halifax Scientific, Cleveland Naturalists', Harrogate and District Naturalists', Craven Naturalists', Hull Scientific, and Leeds Co-operative Field Club. The sectional reports were then given.

Mr. J. H. Howarth, F.G.S., who was acting in the absence of the Secretaries of the Geological Section, furnishes the following report:—

Physically and geologically the country immediately around Sedbergh belongs to the Lake District, and there, within the borders of our own county, may be studied several members of the Silurian system which are so extensively developed in certain localities of the lake country as to derive their distinctive names therefrom.

Here, too, are to be seen interesting sections of the 'Old Red Conglomerate,' at one time considered to be Devonian, but now regarded as 'Carboniferous Basement Beds,' while to the N.E., across the Dent or Pennine Fault, is seen the Great Scar Limestone, followed by a whole series of Yoredales, with the Millstone Grit on the highest ground. Intrusive igneous rocks in sills and dykes in all the Silurians afford additional interest to the petrologist, while the glacial deposits on which the town of Sedbergh stands, and which appear in some of the gills skirting the valley to the N.W., present material deserving the careful attention of the glacialist. A district affording so extensive a series could not fail to supply abundant work for the time at the disposal of the visitors. The geologists who had the good fortune to arrive on the Saturday were usefully

introduced to their subsequent investigations by the exhibits thoughtfully provided at the conversazione in the evening by the Rev. J. H. Mackie, M.A., and Mr. Hugh Richardson, M.A. These included maps of the district, hand specimens of local rocks, both sedimentary and igneous, a few characteristic fossils, and excellent lantern views of some of the most striking sections. To these were added microscopic sections of local Mica-traps and Felsites prepared and sent by the President of the Geological Section, Mr. Thomas Tate, F.G.S.

The advance party first devoted their attention to the 'Old Red Conglomerate' through which the river Rawthey runs at and above Straight Bridge. It consists here, as elsewhere, of a coarse conglomerate of rounded, subangular, and angular fragments of the Silurian rocks, ranging from the smallest grains to blocks two feet in diameter. These are enclosed in a dark red clayey and sandy matrix, and interstices are occasionally filled with calcite. One specimen obtained contains a large crystal of pink orthoclase, presumably from Shap Granite, which has been previously noted by Mr. Goodchild and Prof. H. Alleyne Nicholson as occurring in the Basement Beds between Shap and Tebay. Evidence of stratification appears in a larger section 200 yards up stream, and an apparent imbrication of the contained fragments suggests that the direction of deposit was approximately that of the present stream. Mr. Tiddeman has previously stated that these 'Basement Beds' have every appearance of having been deposited in valleys. Subsequently the party worked over the Coniston Grits of Winder, examined and photographed the glacial moraine in the gill below the rifle butts; and, crossing the heather-grown ridge above, climbed to the summit of Arant Haw (1,950 ft.). Geological investigations were here suspended to admire the scene. Westwards lay in full view the Lune Valley, Morecambe Bay, the Limestone plateau behind Grange, and a splendid series of the Lake Mountains. Around were the Howgill Fells, with rounded tops and steep slopes coloured with the varying shades of a new spring vegetation, while further away to the N. and N.E. the hills in the distance showed the characteristic contours of the Millstone Grit. Sea and river, wild mountain and peaceful valley were all spread out to view, and formed a picture for memory to happily recall for many a day. What with bad weather on one hand, and an excellent programme arranged by Mr. Richardson on the other, the geologists had more than their work cut out when the main body arrived on the Monday forenoon. Nothing daunted, however, a start was made, led by the President of the Union and Mr. Richardson,

to ascend the Rawthey across the Dent Fault, the members gaining much assistance from the detailed notes given in the programme by Mr. Aubrey Strahan, F.G.S. The party drove in a wagonette about six miles to Rawthey Bridge, the 'Old Red Conglomerate' being pointed out to the new comers at Straight Bridge. Thence along the Silurians, noting the chief physical features of the country, and passing Cautley Spout in the Coniston Grits across the valley. At the Cross Keys the road passes on to the Coniston Flags, and the members, now on foot, proceeded to examine the river bed, and specimens of the mica-trap dykes which cross the stream were secured. Passing Rawthey Bridge, near which the river enters twice through Graptolitic Mud-stones, the crushed Silurians soon indicated the proximity of the Dent or Pennine Fault, which was soon reached, and the Carboniferous Limestone was at once in evidence, as shown not only by its outcrop, but its characteristic vegetation. Sections exposed in the river bed are vertical. At this point the geologist is reminded of the peculiar feature which the Rawthey has in common with the Lune, the Dee, and the Clough. Rising in the Carboniferous system to the N.E. the river flows S.W. across the fault from the downthrow to the upthrow side, passing thus from the newer to the older rocks, and on to an area which has undergone greater elevation than that in which the river rises. Proceeding, in a short distance a cave was noted, but it was too wet to explore its recesses. Yoredale Sandstones and shales followed and as the distance from the fault increased the Hardraw Scar Limestone appeared approaching the horizontal again. Time now compelled a return, so the party turned backward, at an angle of about thirty degrees with the river, across the moor, and passing a row of pot-holes indicating the line taken by the vertical Limestone beds previously seen in the river, the members climbed up to the Diabase capping Blue Caster. Thence down to the Cross Keys again and back to Sedbergh, passing a very hearty vote of thanks to Mr. Richardson en route.

On behalf of the Conchological Section, and in the absence of all its officers, specimens were collected on all the routes by various members, and Mr. W. Denison Roebuck, F.L.S., who gave the report, remarked that the attention given to the mollusca was not very systematic, and only 24 species were collected in all, consisting of 3 freshwater shells—*Ancylus fluviatilis*, *Limnæa peregra*, and *Planorbis spirorbis*; 8 slugs—*Agriolimax agrestis*, *Limax marginatus* (= *arborum*), *L. maximus* (one, very small), and all the five British species of the genus *Arion*, viz., *A. ater*, *A. subfuscus*, *A. hortensis*,

A. circumscriptus, and *A. minimus*; and 13 land shells—*Hyalinia alliaria*, *H. nitidula*, *H. crystallina*, *Helix aspersa* (a single dead shell), *H. nemoralis*, *H. hortensis*, *H. arbustorum*, *H. rufescens*, *H. hispida*, *H. rotundata*, *H. rupestris*, *Clausilia perversa*, and *Cochlicopa lubrica*.

The Entomological Section was only represented by three members. Mr. J. Braim and Mr. E. G. Potter paid attention to the Lepidoptera, and Mr. Walter F. Baker to the Coleoptera.

Mr. E. G. Potter reports as follows:—To the entomologist lepidoptera were most conspicuous by their apparent absence. Very few species were seen on the wing or at rest, and the only ones recognised were *Pieris rapæ*, *Fidonia atomaria*, and *Eurymene dolobraria*, in fine condition. Larvæ of the common *Xanthia fulvago* were also found. There is no doubt the district set apart for investigation was rich in lepidopterous life in the shape of hidden ova and pupa, but these did not come to light in a two days' visit.

In addition to these, Mr. Hugh Richardson states that over 100 species of Lepidoptera are on record; some require confirmation, but among those less easily mistaken are the Poplar, Death's Head, and Humming Bird Hawks, Northern and Ghost Swifts, Clouded Buff, Wood Tiger, Fox Moth (larvæ), Emperor (larvæ), Clouded Magpie, Red Admiral, Painted Lady, and Pearl Bordered Fritillary (*Argynnis euphrosyne*).

Mr. Walter F. Baker, F.E.S., reported for the Coleoptera, that, comparatively speaking, very little could be done in this section. The rain, which fell at intervals during the whole of the day, prevented the phytophagous species from being at all well represented, and most of the time was devoted to the stercoraceous and semi-aquatic species. The route followed was by the side of the river Rawthey. Under stones by the road-side *Pterostichus striola* was abundant, together with such widely-distributed species as *Calathus melanocephalus*, *Nebria gyllenhallii*, *Clivina fossor*, and *Stomis pumicatus*. *Anchomenus albipes*, both the normal and the rufous forms, *Pterostichus nigrita*, and single specimens of *Bembidium testaceum* and *Amara acuminata* were found in similar situations later in the day. On the moss-covered stones in a little beck which rushes down to join the Rawthey near to the bridge, the pretty little *Dianois cærulescens* was fairly abundant, and here, too, specimens of *Elmis æneus* were obtained. Amongst the Aphodii, *A. ater* was by far the commonest, and literally swarmed. The eggs of this species were very abundant, though generally laid in twos or threes. They are cylindrical in shape, measuring about $1\frac{1}{2}$ mm. in length. These hatched a few days after I got them, and on the 24th of June the

first one pupated. Up to the present time (July 13th) three more have pupated, but the others are still in the larval stage. Most of the perfect *A. ater* obtained had the elytra of a dark red colour instead of the normal black, whilst on the contrary *A. depressus* were all unicolorous black instead of having the typical red elytra. *A. constans*, *A. fimetarius*, *A. punctato-sulcatus*, and *A. rufipes* were only represented by single specimens, the latter just emerging from the pupa state in which it had passed the winter. *A. fossor* was not to be found anywhere, and was probably still in the resting stage. It seems extremely probable, considering the rapidity with which *A. ater* passes through the various stages that two generations are produced yearly; *A. rufipes*, on the other hand, as I can vouch from personal experience in rearing them, spends about five months in the larval and six weeks in the pupal state, and only produces one generation annually. *Geotrupes'* borings were very plentiful, and in several of the burrows the eggs, surrounded by their natural food, were found. The only species found was *G. stercorarius*. In another little brook we passed, *Hydroporus rivalis* was taken dashing about in the clear pools at the back of the boulders, together with *Agabus maculatus* and *Haliphus lineatocollis*. About a month before *Corymbites cupreus* and *C. pectinicornis* had been obtained on the borders of a pine wood. The Trichoptera were in great abundance. The larvæ of *Simulium* were common, also two pupæ of the same, enveloped in their transparent cases made from the secretion of the salivary glands. The larvæ and pupæ (so-called) of *Perla* were in abundance in the little pools.

For the Botanical Section Mr. J. Farrah supplies the following report:—The Botanical Section divided into two parties, which were under the genial and able guidance of the Rev. W. Thompson, M.A., and Mr. John Handley. Mr. Handley's party took the road leading from the railway station to the Lune, passing on their way Ingmire Hall, the residence of Mrs. F. U. Cotterill Dormer, one of the 'Stately Homes of England,' standing amidst scenery of the most delightful and enchanting description. *Sedum purpurascens* was seen in several places along the hedge-banks, and Thale Cress of airy glaucous form clothed the low cam-side walls with beauty; and where turf took the place of stone, nodding Field Rush, and golden tasselled Vernal Sedge, gem bedecked, lined the hedgerows in countless numbers. The Lune being reached, Hemlock Water-dropwort (*Ænanthe crocata*) of suspicious appearance and evil repute was seen growing luxuriantly. (This plant is also abundant near the railway station, and by some of the rills that dance merrily through the hill-side pastures, and we wondered if ever the cattle were injured by

eating it.) A little further on the party were delighted to meet with a large patch of *Epimedium alpinum*, well established under the protection of Hazel-bushes, and flowering freely. The probability is that this plant has been brought here by the Lune when in flood. On this portion of the river the Yorkshire side is much more picturesque than the Westmorland, the 'Bluestone' stands on edge, and in mid-stream the waters chafe and roar impatiently at the restraint imposed upon them by the solid diagonal wall and huge boulders that stretch from one bank to the other. Sticking close to the side of the stream a search among the confused and highly picturesque masses of rock revealed many of Flora's choicest wildings. The elegant fronds of the Oak-Fern, nearly always accompanied by her sister the Beech-Fern, clothed many an oozy nook in delicate beauty; and large patches of the Opposite-leaved Golden Saxifrage illumined many an otherwise gloomy recess. This species was found to be much commoner than *C. alternifolium*. The Stone Bramble with short erect flowering stems, and careless rambling runners was, in spite of its rambles, delightfully at home. Globe Flower and Marsh Marigold adorned the boggy spots with orange and gold, the great Hedge Bedstraw clambered in glorious profusion over rock and rough slope, and e'er this meets the eye of the reader will have covered them with blooms of snowy white. Its near relatives the Heath and Northern Bedstraws were also here, the one as yet in dainty green cushions, the other springing from clefts in the tough and polished Silurians where one would have thought life impossible. Early as it was in the year the wand-like stems of the Golden-rod were frequently met with, and one precocious specimen flaunted its yellow tassels to the breeze. In passing over the very hard and very slippery rocks great care had to be exercised to avoid what would have been to say the least of it a very ugly fall, and probably a ducking into the bargain. And let it here be said, though the party was small there was no lack of enthusiasm, and if each member was not a botanist, he was what is better—a true nature worshipper. There was no scrambling or undue haste to take specimens, but a strong and loving desire on the part of all to preserve intact the floral beauties around them.

'A thing of beauty is a joy for ever.'

The Lesser Celandine was frequently found bearing in great abundance bulbils in the axils of the lower leaves. This elicited from Mr. John Braim, of Pickering (who represented the ornithologists), the interesting fact that Wood Pigeons are very fond of these bulbils, he having shot them when their crops contained scarcely any other kind of food.

Mr. Thompson's party had a most successful ramble. A list of the rarer plants found during the excursions will appear at the end of the report.

On Whit-Tuesday the writer was courteously accompanied to Cautley Spout by Mr. William Robinson, of Greenbank, Sedbergh, who is an old supporter of the Yorkshire Naturalists' Union. The day was fine, and the ramble proved a most enjoyable and instructive one. Birdcherry tasselled in luxuriant profusion hedge-row and stream-side, and the argent salvers of the Strawberry studded the sloping hedge-banks in countless numbers, and overhead myriad bees with joyous hum revelled among the golden racemes of the Sycamore. Waterblinds, with tiniest white petals, bathed in merry mountain rills; and in quiet plashes Ivy-leaved Crowfoot shed its fugacious blooms. At Cronkley, Parsley fern flourishes abundantly, clothing the inaccessible scars in feathery verdure; Alpine Lady's-mantle, rock-perched and boulder-begirt, spreads its silvery fans lightly to the breezes, and in damp places Harts-tongue drinks the mountain dew. A difficult climb to a likely-looking ledge of rock rewarded the searchers with a specimen of the slender Orpine (*Sedum fabaria*). Time compelled our departure long before we had half explored this romantic spot. The journey home over the toes of the fells was a delightful one, white climbing Fumitory, Wood-Stitchwort, Enchanter's Nightshade, and Fir Club-Moss were the rarest plants noted. All the while the birds filled the air with melody—away on the distant hill-tops sounded the free ringing trill of the Curlew, the clear whistle of the Ring-ouzel, the sonorous call of the Cuckoo, and the timid 'weet, weet,' of the Meadow Pipit. The noble music of the Thrush and the rich pipe of the Blackbird rolled, echoed and re-echoed throughout the entire valley. By the Rawthey the Dipper, with metallic note and doublet of silvery white, flits rapidly past, followed almost instantly by a silent emerald flash that we know is the Kingfisher.

This report should not close without mention of the magnificent *Araucaria* that stands in the grounds of Mr. Warwick P. Boustead, Settlebeck House, Sedbergh. Its height is about 40 feet. The lower branches rest upon the ground in graceful curves, spreading on all sides to a distance of 16 feet, the upper ones gradually taper to the top, forming a cone remarkable for its symmetrical beauty. The girth of the trunk close to the ground is 7 feet 6 inches, and at 5 feet from the ground, 4 feet 6 inches.

Two artist members worked incessantly with pencil, brush, and camera in securing pictures of geological sections and 'bonny bits' of rock, wood, and water in combination. When the Yorkshire

Naturalists' Union possesses Lecture Hall, Library, and Museum, the works of these two worthies, along with those of many another, will beautify the walls thereof and serve as souvenirs, recalling with vivid touch the happy and profitable days spent with kindred souls amidst our Yorkshire hills and dales.

The following is a list of the rarer plants seen :—

Ranunculus hederaceus.	Ranunculus auricomus.
Caltha palustris.	Trollius europæus.
Epimedium alpinum.	Corydalis claviculata.
Arabis hirsuta.	Cardamine amara.
Draba verna.	Cochlearia alpina.
Cochlearia armoracia.	Sisymbrium Thaliana.
Viola palustris.	Viola arvensis.
Viola lutea.	Polygala vulgaris.
Arenaria trinervia.	Montia fontana.
Hypericum perforatum.	Hypericum pulchrum.
Geranium phæum (escape).	Geranium sylvaticum.
Geranium pratense.	Geranium lucidum.
Cytisus scoparius.	Trifolium medium.
Vicia cracca.	Lathyrus macrorrhizus.
Prunus avium.	Prunus padus.
Geum intermedium.	Alchemilla alpina.
*Cratægus oxyacanthoides.	Saxifraga granulata.
Sedum purpurascens.	*Sedum fabaria.
Circæa lutetiana.	(Enanthe crocata.
Viburnum opulus.	Galium boreale.
Galium mollugo.	Lactuca muralis.
Ligustrum vulgare.	Anchusa sempervirens.
Pedicularis palustris.	Pedicularis sylvatica.
Stachys betonica.	Plantago media.
Polygonum bistorta.	Humulus lupulus.
Salix pentandra.	Populus tremula.
Orchis mascula.	*Convallaria majalis.
Luzula maxima.	Luzula congesta.
Asplenium trichomanes.	Asplenium ruta-muraria.
Cystopteris fragilis.	Polystichum angulare.
Polypodium dryopteris.	Polypodium phegopteris.
Equisetum maximum.	Equisetum sylvaticum.
Eriophorum vaginatum.	Eriophorum angustifolium.

Paris quadrifolia was seen near Rawthey Bridge, at an elevation of 800 feet above sea-level. The plants with an asterisk prefixed are believed to be new records for the district. Early as was the date of the excursion, over two hundred species of flowering plants were seen. The frost on the nights of the 3rd and 4th of May had damaged the tops of the potatoes, and shrivelled here and there the foliage of the sycamore. With these exceptions vegetation was in a most forward and flourishing condition, especially so the blooms

of the Bird Cherry, the Hawthorn, and the Crab. Many bushes and trees of each species were so laden that they had the appearance of being one gigantic nosegay, scarcely a leaf being visible amongst the lavish profusion of flowers.

Mr. John Braim reported for the Vertebrate Section as follows:— The varied features of the district gave promise of a rare treat to the zoologist, nor did the observations made in the short time at our command falsify the promise. The birds, as being more in evidence, were particularly interesting. The Swallow family appear to have made their headquarters here; on the highest fells the Swift and Martin were quite at home; and joining their congeners, the Swallow and Sand Martin, in their insect hunting over the river, their numbers were countless. The Common Sandpiper, with its cheery cry, greets you at every turn of the stream—it is common and no mistake. The Dipper may be engaged in attending to its young in some quiet locality, as it was not so much at home as it ought to have been to give the finishing touch to such lovely surroundings. The neighbourhood is a veritable bird paradise, torrents of song and call and cry are heard from morn till night; but to the observant ornithologist there is a tone of sadness running through the prevailing joyousness. Why are so many of our beautiful friends missing from the vernal feast? The Jay and Magpie, and the lesser Hawks and the Owls, what has become of them? And why after walking twelve miles to hear the croak of a Raven, should we be disappointed? Oh for the sight of the 'Twenty thousand Corn' naturalists determined to know the reason why. The foolish persecution and slaughter wants putting a stop to, and the silly people protecting against their own ignorance. The rats and mice of Scotland and North Yorkshire and Lincolnshire, and the caterpillars and aphides of the South of England are poor exchange every way for the loss of the birds; besides our country walks would be vastly more interesting if the landscape was enlivened by the presence of these old inhabitants. We were amused at some instances of what we supposed were efforts of evolution. Has the Long-tailed Tit taken a fancy to the domed nest of the dumpy, squat Wren? It certainly looks awkward with its tail sticking out of the doorway; either the tail or the dome must disappear. Also the Heron building its nest on the tops of the highest larches, soaring over its nest with the grace of a Kestrel and alighting on the smallest branch with the airiness of a Tree Pipit, quite at its ease without any effort to balance itself. In this case it is difficult to guess what it is going to do with its long claws and beak, and neck and legs—as now fitted up the adaptation is rather far-fetched. The list as follows includes the species met with:—

Mammals.	Ring Ouzel.	Chaffinch.
Fox.	Dipper.	Linnet.
Rabbit.	Lapwing.	Lesser Redpole.
Squirrel.	Land Rail.	Wheatear.
Long-tailed Field Mouse.	Heron.	Whinchat.
Birds.	Pied Wagtail.	Willow Warbler.
Kestrel.	Grey Wagtail.	Wood Warbler.
Crow.	Yellow Wagtail.	Whitethroat.
Rook.	Common Sandpiper.	Redstart.
Jackdaw.	Curlew.	Meadow Pipit.
Starling.	Common Bunting.	Tree Pipit.
Great Tit.	Black-headed Bunting.	Swift.
Blue Tit.	Spotted Flycatcher.	Swallow.
Long-tailed Tit.	House Sparrow.	Martin.
Cuckoo.	Hedge Accentor.	Sand Martin.
Kingfisher.	Redbreast.	Mallard.
Song Thrush.	Tree Creeper.	Red Grouse.
Blackbird.	Wren.	Herring Gull.

Votes of thanks to the landowners, the Sedbergh members, the Honorary Secretaries, and the Chairman concluded the proceedings.

W. F. B.

NOTES—BOTANY.

Plants of Filey.—About seven minutes' walk going south of the promenade at Filey brings one to the cliffs and undercliff. Midway up the latter is a spring of water, consequently the ground is moist. Here grow in great abundance *Parnassia palustris*, *Anthyllis vulneraria*, *Trifolium procumbens*, also in moderate quantity *Gymnadenia conopsea*, *Ononis spinosa*, and the following species:—*Epilobium parviflorum*, *Eupatorium cannabinum*, *Agrimonia eupatoria*, *Daucus carota*, *Vicia cracca*, *Scabiosa succisa*, *Knautia arvensis*, *Hypericum perforatum*, *Sonchus arvensis*, *Vicia hirsuta*, *Stachys betonica*, and *Sanguisorba officinalis*. Continuing the route to the entrance to Primrose Valley, here on the cliff side *Geranium sanguineum* is very plentiful, with its lovely crimson bloom. Before reaching Speeton Crags on the undercliff, *Ranunculus lingua*, *Cyanthe fistulosa*, *Silene pratensis* and the pretty *Spiraea filipendula*. Other rare plants in the neighbourhood are *Sium angustifolium*, *Hypericum montanum*, *Campanula latifolia*, *C. glomerata*, *Listera ovata*, *Plantago maritima*, *P. media*, and *Mentha rotundifolia*. The foregoing were all in bloom at the end of July. As the undercliffs lie rather sheltered, and are not pastured, it is a very good field, much lying in little space.—W. H. COOKE, 20, Elmfield Terrace, Halifax, Aug. 30th, 1893.

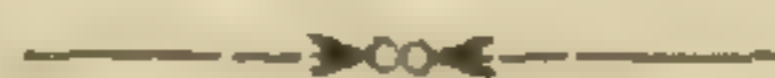
Hound's Tongue near Ripon.—I am not aware that *Cynoglossum officinale* has been previously recorded as growing in this particular locality, but it is now (July 2nd) flowering on Hutton Moor, near Ripon. This plant, which is remarkable for its disagreeable odour of mice, is described by Mr. Arnold Lees in his 'Flora of West Yorkshire' as 'very rare within our area.' The Rev. H. H. Slater, M.A., F.Z.S., formerly of Ripon, referring to it, also writes:—'Miss Plues considers it common at Bishopton (near Ripon). I can only say that I used to be at Bishopton twice every day for two years and a half, and saw no traces of it.' Mr. F. A. Lees states that he finds it growing principally on limestone, but this Hutton Moor specimen is growing on the Keuper marls, which, with the Rhœtic, and Lower Liassic beds of Asenby and Topcliffe, should have been found five or six miles further to the east, but for those remarkable faults which make it appear as if rocks lying at the foot of Hambleton had been bodily thrown to the westward, almost into the West Riding.—W. GREGSON, F.G.S., Baldersby, S.O., Yorks.,

July 4th, 1894.

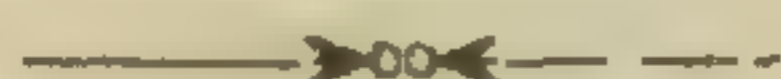
August 1894.

NOTES AND NEWS.

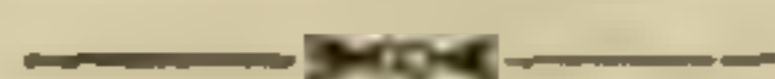
Mr. Linnæus Greening, of Warrington, editor of our contemporary, 'The British Naturalist,' was some time ago elected F.L.S.



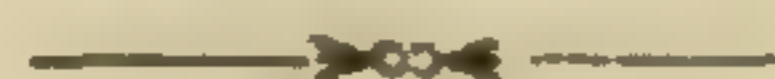
Mr. H. O. Forbes has been selected to succeed the late Mr. Moore as Chief Curator of the Public Museum at Liverpool.



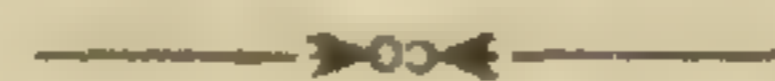
A most important series of investigations has been for some time undertaken by Dr. H. R. Mill, the Librarian of the Royal Geographical Society, into the depths of the English Lakes, and he finished this bathymetrical survey during the last week of March by taking systematic soundings of Haweswater. The result is not altogether in accordance with the general supposition that this, which is the highest of the English lakes, its surface being 694 feet above sea-level, is also the deepest. For it is not so by any means, being only 103 feet in the deepest part.



An excellent paper on 'The Molluscan Fauna of the Bowdon District of Cheshire,' by Messrs. J. G. Milne and Charles Oldham, appeared in the January number of the 'Journal of Conchology,' and a reprint lies before us, by the courtesy of the authors. The district is one which they know well, both authors having resided and collected in it for many years. The distance is roughly defined as one with a five-mile radius of Bowdon Church, which, however, is fairly typical of the Cheshire plain, and has natural boundaries, Mersey to the North, the watershed of Bollin and Weaver to the South.



Lord Armstrong has a good opportunity of adding to the many claims he has on the esteem of his fellow-countrymen by a careful and strict preservation of the wild birds on the Farne Islands, the outer group of which, including the famous Pinnacles, the Brownsman, the Harkus, and the Longstone, he has just acquired by purchase. The inner group belongs to Mrs. Thorp, and it would give general satisfaction if the two owners were to combine for the purpose of affording an everlasting paradise, unmolested by the gunner or the egger, to the sea-birds whose nesting-places add so great a charm to the islands.



We have received the Third Annual Report of the Society for the Protection of Birds, which was founded in February 1889, the report extending from October 1st, 1892, to the end of December 1893; and also its reprint No. 12, in which Mr. W. H. Hudson treats of Bird-catching, and Mr. W. L. Woodroffe describes the great destruction of Linnets, Larks, and Goldfinches along our southern and eastern coasts. The society is in the main a ladies' society, the Duchess of Portland being President, and Mrs. F. E. Lemon, of Hillcrest, Redill, Surrey, Hon. Secretary. The society numbers 9,159 members, and possesses a number of branches in various towns. The report deals with various phases of the subject, and the society will receive, as it ought to do, the sympathy—active we hope rather than passive—of all who have a true interest in our bird-population.



To a recent report of the Superintendent of the Lancashire Sea Fisheries is attached an interesting note by Professor Herdman, who suggests that Port Erin, Isle of Man, is a suitable place for lobster culture. The sea-water there is pure, the coast rocky, with abundance of seaweeds, and lobsters already live in the neighbourhood, showing that the ground and other conditions are suitable and ensuring a ready supply of the parent animals. As the proof of the want of many more native-grown lobsters, it is mentioned that some hundreds of thousands are imported annually from Norway and from France, and that lobster hatcheries have lately been established in Newfoundland, which hatch over five hundred million young lobsters annually so successfully that there is only a loss of about 11 per cent., and the promoters of these hatcheries are said to be thinking of placing their lobsters on the English markets.



Fig. 1.



Fig. 2.



Fig. 3.



Fig. 4.

EXPLANATION OF PLATE.

Fig. 1.—*Fayolia dentata* R. & Z. Mould in sandstone. $\frac{1}{10}$ ths natural size. *a*—Position of deeply-cut and narrow grooves.

Fig. 2.—*Fayolia dentata*. Cast found in the mould (Fig. 1). $\frac{1}{10}$ ths natural size.

Fig. 3.—*Fayolia dentata*. Partially restored. After Renault & Zeiller. $\frac{1}{4}$ th natural size.

Fig. 4.—*Cestracion philippi*. (Egg-capsule). $\frac{1}{3}$ rd natural size. After Günther.

A NEW BRITISH CARBONIFEROUS FOSSIL.

A. C. SEWARD, M.A., F.G.S.

THE records of the rocks, and especially of the older strata, are not infrequently exceedingly difficult to decipher. In the case of animals with internal or external hard parts, such as vertebrates or molluscs, the conditions for preservation in sands or clays are favourable enough; but as regards those organisms which are without such convenient structures, the traces of their existence are often far from legible. It is the duty of palæontologists to interpret as far as they can the indistinct markings, casts, or impressions which the rocks afford; and such attempts at interpretation should always be undertaken with the utmost caution where the data are of a problematical nature. The numerous instances of so-called fossil algæ afford examples of doubtful records, which have in many cases been wrongly determined, and have added confusion to the nomenclature of a science which is inconveniently encumbered with bewildering synonyms.

Occasionally a fossil has been described and figured as an interesting addition to the flora of a past age, and subsequently removed by general assent to the kingdom of extinct animals; or, again, certain supposed fossil animals have been shown to be plant fragments. Mistakes of this kind are difficult to avoid, and all that we can do is to curb our inclination to make dogmatic statements, unless the evidence at hand justifies such a course. Doubtful fossils are often well worthy of description and illustration as contributions to facts, from which as new discoveries are made definite conclusions may be drawn. The important point is to boldly confess our imperfect knowledge, to make speculations guardedly, and to add such facts as we can towards the solution of palæontological problems.

A recent 'find' by Mr. George Best, of Darlington, affords an interesting example of a Carboniferous fossil, about which it is safer to express ourselves cautiously, and to wait for further evidence, before attempting to definitely decide as to its true position in the organic kingdom. This fossil was obtained from the Lower Coal-Measures Sandstone of Stainton Quarries, Barnard Castle.* It is represented somewhat less than natural size in Fig. 1: the specimen has a length of 8 cm. and in its broadest part measures 2.7 cm. The surface of the sandstone cast, which is without any trace of carbonaceous matter, is marked by two spirally twisted ridges, above

*Woodward, H.B. Geol. England and Wales, 1887, p. 181.

which, in some places, a careful examination reveals the existence of closely arranged, small and indistinct depressions; these appear in the figure as small dots immediately above the spiral ridges. If the fossil be viewed from either end, or if the spiral lines be carefully followed, it will be seen that there are two spirally wound bands, which appear on the surface as broad shallow grooves and projecting ridges. The form of the cast is more or less cigar-shaped, and tapering towards either end; the more pointed and perfect end is shown at *x*; the other end is less perfect, and evidently broken. In section, the fossil has the form of a flattened ellipse, probably the result of compression. This peculiar cast was found in a mould which fortunately presents on the surface of the sandstone certain important characters, which are of use in determining the nature of the fossil. The mould is shown in Fig. 2 enclosed in brown ferruginous sandstone; no doubt the regularly disposed brown colour, immediately surrounding the impression, is the result of chemical action for which the organic matter was responsible. The shallow grooves of Fig. 1 appear in Fig. 2 as broad ridges, and at the lower limit of each there are distinct and regularly placed round or elliptical projections, which correspond to the much less obvious depressions on the surface of the cast. Between these broad ridges the mould exhibits more or less deeply cut and narrow grooves; towards the upper end of the figure, at *a*, the deeply-cut lines are clearly shown, extending a short distance into the substance of the sandstone. No doubt these narrow lines on the surface of the mould have been formed by some thin projecting structure which was attached in two spiral lines to the surface of the fossil, and became embedded in the surrounding sand.

We may conclude, then, that in Fig. 1 we have a somewhat imperfect sandstone cast of the internal cavity of the original structure, and in Fig. 2 the impression, in a sandstone mould, of the surface markings of the fossilised body. The organic substance itself, which originally existed between the cast and mould, has entirely disappeared. The body must have been hollow and provided with a strong resistant wall, which was able to withstand the pressure of the surrounding sand, thus enabling an internal cast to be formed without more than a partial compression of the whole structure. One notable fact to be observed is the absence of carbonaceous matter between the cast and mould. The absence of such coaly substance, although by no means as some have suggested, in itself a fatal objection to the vegetable nature of the fossil, should make us recognise the possibility that we have to deal with some animal and not plant organism. Before speaking of the possible

affinities of this fossil, we must note the discovery of apparently the same structure in the Coal-Measures of France. In 1884, MM. Renault and Zeiller* instituted a new genus *Fayolia*, for certain fossils which had been discovered in Carboniferous shales in the Commentry coal-field of S.W. France. The name *Fayolia* was chosen in honour of M. Fayol, Director of the Commentry mines. Two species were recognised, *F. dentata* and *F. grandis*; the figure of the former represents a spindle-shaped body 8 to 12 cm. long and 1.5 to 2 cm. at its broadest part, with two spirally wound ridges to each of which was attached a thin membranous structure with a finely denticulate margin. At one end (lower?) the elongated body was attached to the remains of a stalk-like structure, and the opposite end terminated in a gradually tapered point. Fig. 3 is reduced from the figure of *F. dentata* in Renault and Zeiller's paper; it represents the fossil one-half natural size. The following definition by Renault and Zeiller best describes the character of the genus: † 'Fusiform or cylindrical body, pointed at the two ends, borne at the top of a peduncle, and composed of two valves more or less concave on the surface, fused together by their edges, and wound in a spiral enclosing a central cavity. The valves marked with a line of small circular or elliptical scars just above the sutures. Each suture provided with a helicoidal and spreading collarette with an entire or denticulate margin.'

The scars are regarded by the authors of the genus as perforations in the wall of the 'valves,' which were left on the fall of small spines originally attached at regular intervals immediately above the spiral ridges. At the apex of *Fayolia dentata* the two collarettes appear to have been free and slightly prolonged parallel to the axis of the organ. There can be no doubt that the French specimens are very closely allied to, if not identical with, the Stainton form. In the English specimen the collarette has not been preserved, but the original existence of such a structure is indicated by the narrow and fairly deep grooves seen at *a*, in Fig. 2. The second Commentry species, *F. grandis*, differs from *F. dentata* in its larger size, and in the absence of a denticulate margin in the collarette; the length of *F. grandis* is given as 40 cm.

In the same year in which Renault and Zeiller's discovery was made known, the late Professor Weiss, ‡ of Berlin, recorded a new

* Compt. rend., vol. xcvi., 1884, p. 1391.

† Études sur le terrain houiller de Commentry. Flore fossile (Renault & Zeiller), Pt. i., p. 15, 1888. [Bull. Soc. indust. minérale, sér. iii., vol. ii., livr. 2.]

‡ Abh. Geol. Spezialkarte von Preussen und den Thüringischen Staaten. Band v. Heft. ii. 1884, pp. 152 and 202. Pl. iv. figs. 3 and 4.

fossil under the name of *Gyrocalamus*, from the Permian rocks of Germany. This fossil, *Gyrocalamus palatinus*,* is described as the cast of a cylindrical and twisted stem with its smooth surface marked by two prominent spiral bands, each of which shows several small circular or elliptical scars; below each of the broad spiral ribs there occurs a projecting ridge. Weiss compares the fossil to *Calamites*, and suggests the possibility that *Gyrocalamus* is some abnormal form of calamitean stem. It is impossible, he says, to decide whether the *Gyrocalamus* is an example of a portion of some leaf-bearing plant, the leaves of which have assumed a spiral arrangement, or whether it should be regarded as a plant the leaves of which were normally so arranged. Weiss' specimen is about 18 cm. long and has a uniform breadth of 4 cm.; there is no indication of tapering at either end.

In his important monograph on the Jurassic flora of France, the Marquis of Saporta† discusses at some length the affinities of the well known fossil *Spirangium* (*Palæoxyris* of Brongniart; *Palæobromelia* of Ettingshausen), and refers to the closely allied genus *Fayolia*. He confirms Renault and Zeiller in their description of the Commeny species, and concludes that *Fayolia* supports rather than opposes the opinion that the *Spirangeæ* (including *Spirangium* and *Fayolia*) should be regarded as submerged apparatus which served as floats to some unknown plants. It would occupy too much space to attempt a complete account of the problematical genus *Spirangium*, which has a geological range from the Coal-Measures to the Wealden rocks; the various forms of this genus have been fully discussed by Mr. Kidston in a paper published in 1886.‡

In 1887 Weiss§ founded an additional species of *Fayolia*, *F. sterzeliana*, on a specimen discovered by Sterzel in Permian strata near Chemnitz, Saxony. The figures of this species show a more or less prominent and rounded spirally-arranged ridge, with numerous circular scars, each of which has a small central dot; immediately below each scar-bearing rib there is a sharp projecting line, and between the turns of the spiral the surface of the fossil is slightly concave. The Chemnitz specimens agree with that of *Fayolia* (*Gyrocalamus*) *palatinus*, previously described by Weiss, in the absence of any signs of tapering ends. *F. sterzeliana* differs

* Renault and Zeiller regard *G. palatinus* as identical with the larger Commeny species, *Fayolia grandis* (Études terr. houil. Commeny, Pt. i.).

† Paléontologie Française—Sér. ii. Végétaux. Plantes Jurassiques, vol. iv. 1891, p. 28.

‡ Royal Physical Soc., Edinburgh, vol. ix. p. 1.

§ Jahrb. k. preuss. Landesanst., 1887, p. 94.

from *F. palatinus* in its smaller size, and in the possession of fine striations parallel to the spiral ridges. The latter character may well be due to the more perfect state of preservation of the Chemnitz specimens; but whatever value may be attached to the supposed specific differences, the two forms are undoubtedly fossils of essentially the same character. It is difficult to decide whether the absence of tapering in the German species is merely the result of the fragmentary nature of the specimens, or if it should be regarded as a character of specific value. The latter possibility is hardly admissible, and very likely, had we more complete examples before us, we should find that the organism was gradually narrowed at the ends, as in the French and English specimens.

Other fossils, similar in form to *Fayolia*, have been described from Upper Devonian strata in the States of New York and Pennsylvania, and from the much more recent Laramie formation.

Under the head of 'Remains of doubtful affinity and with unknown structure,'* Schenk has summarised our knowledge of *Spirangium* and *Fayolia*. In discussing the latter genus he points to the difference as regards general habit between the German and French, and we may now add the English, specimens; the German forms appear to be portions of cylindrical stem structures, in others the shape is not consistent with the idea of stem fragments. Another difference lies in the absence of a collarette and spines in the German species. Schenk inclines to agree with Weiss, that the numerous rounded scars in the Permian species represent the points of attachment of leaves, and he is favourable to Weiss' suggestion that the general character of the specimens must be attributed to some pathological development in a calamarian axis.

It should be mentioned that Weiss refers to the occurrence of spirally attached leaves in an example of *Casuarina stricta*, figured by Alex. Braun, as an instance of whorled appendages suddenly assuming a spiral arrangement.† Reference might also have been made to a similar phenomenon in *Equisetum* stems, where the usual sheathing leaves pass into a spirally placed and continuous sheath. A figure given by Milde of *E. telmateja*‡ shows a projecting spiral sheath, with denticulate margin, not at all unlike the collarette of *F. dentata*; but in the latter there are two spirally disposed collarettes, and in *Equisetum* we have only one such structure.

* Schenk. Die fossilen Pflanzenreste. (Handbuch der Botanik, 1888,) p. 185.

† Weiss. Abh. Geol. Specialkarte von Preussen, etc., p. 153.

‡ Beiträge zur Kenntniss der Equiseten. Nova Acta Ac. Cæs. Leop.-Car., Vol. xxiii., 1851. Pl. lvi., fig. 40.

Schenk does not agree with the relationship of *Fayolia* and *Gyrocalamus* as expressed by Weiss in his adoption of the former name; he refers the French *Fayolia* to the attention of Ichthyologists as possibly belonging to their department of palæontology. Acting on this hint from Schenk, Renault and Zeiller,* the authors of *Fayolia*, examined a number of sharks' eggs, and were at once struck by the striking resemblance of the egg of *Cestracion philippi* (the Port Jackson Shark), to the Comentry species of their genus. There is the same pair of spirally-wound keels and collarettes, and the surface of the egg-membrane shows a further correspondence in the presence of fine striations parallel to the keels.

In their original description of *Fayolia*, Renault and Zeiller made reference to traces of cells detected in the carbonaceous matter on the surface of the fossils; but this observation, in the light of the new view as to the affinity of the genus, is found to have been founded on some accident of fossilisation. The spines and scars of the Comentry specimens cannot be precisely matched in the egg-membranes of fishes, but in some eggs of *Chimæra* 'nerves' were found arising from the circumference of the egg, and radiating in the membrane as if formed of fibres aggregated together in small bundles, and presenting an appearance somewhat similar to that of the spines of *Fayolia*. If these pencils of hairs were free instead of embedded in the membrane, the characters of the fossil spines would be more or less exactly reproduced.

In one of the figures of *Fayolia grandis* in the monograph by Renault and Zeiller, two isolated helicoidal collarettes are shown, one wound about the other, and affording no indication of having been separated from the fossil by tearing. If these be regarded as free prolongations of the membranous collar of certain fishes' eggs, such as occur in some Rays, or as spirally-coiled filaments in *Scyllium*, they at once become intelligible.

'We believe then,' to quote the French authors, 'that the *Fayolias* are decidedly fishes' eggs which resemble the eggs of *Cestracion*, the eggs of Rays or *Scyllium*, and the eggs of *Chimæra*, with which they further agree in their spindle-shaped form, and in the thinner nature of their membrane.' It is not without interest to note that M. Ch. Brongniart has recorded *Pleuracanthus gaudryi* from Comentry, a fish which combines several of the characters of these different groups, and shows a resemblance in the form of its egg to *Fayolia dentata*. *Spirangium* is also compared to the eggs of fishes such as *Cestracion*, etc. Renault and Zeiller refer to some figures of fishes' eggs which resemble *Fayolia*. The greatest resemblance occurs in *Cestracion*

* Compt. rend. Vol. cvii., 1888, p. 1022.

philippi; the egg-capsule of this species is figured by Dr. Günther* and also by McCoy,† and it must be admitted that the two spirally wound membranous expansions and the tapered extremity suggest a fairly close connection with the fossil specimens. An examination of the egg-membrane of this recent shark reveals the existence of certain points of difference which should be taken into account. Fig. 4 represents an egg of *Cestracion philippi*, one-third natural size, reduced from Günther's figure. In the first place the *Cestracion* egg is tapered towards one end, but gradually broadens towards the opposite end; the membranous wing is entire, and there are no signs of any scars or small spine-like appendages such as occur on the specimens of *Fayolia*. How far such differences as these may be looked upon as a fatal objection to the inclusion of *Fayolia* among the eggs of fossil fishes is difficult to determine. Although many writers seem to have decided on the animal nature of these peculiar fossils, it should be recognised that so eminent an authority as Dr. Günther, who was good enough to examine the English specimen, does not feel able to accept *Fayolia* as the egg of a Palæozoic fish.

It would be somewhat premature to consider as settled the systematic position of *Fayolia*, but it would appear that there is no other organism, or part of an organism, whether animal or vegetable, which offers so close a resemblance to the fossil species as the winged egg-membrane of *Cestracion*. It is a remarkable fact that we are in almost total ignorance as to the eggs of fossil fishes. The hard and resistant horny cases of recent eggs seem well adapted for preservation in sedimentary strata, and it might reasonably be expected that similar egg-cases of Palæozoic species should occasionally occur in ancient sediments. If we finally decide to accept *Spirangium* and *Fayolia* as special forms of egg-capsules, we can better understand the almost complete absence of records of fossil eggs in palæontological literature.

Reference has already been made in this paper to some doubtful spirally marked fossils described by Newberry‡ and Lester Ward§ from America. Newberry's specimens were discovered in the Devonian Sandstones of the Chemung group in North Pennsylvania and New York State; the genus *Spiraxis* was instituted for their reception and thus defined:—'Body cylindrical, or subfusiform, somewhat abruptly conical above, more gradually tapering below; surface traversed by two parallel revolving spiral ridges, in some

* The Study of Fishes, 1880, p. 168, fig. 80.

† Prodr. Zool. Victoria, Dec. xii., 1886, p. 55.

‡ Ann. New York Acad. Sci., vol. iii. 1885, p. 217. Pl. xviii. figs. 1-3.

§ U.S. Geol. Surv. Annual Report, vi. 1885, p. 405. Pl. xxxi. fig. 3.

species closely approximated, in others separated by intervals half as wide as the diameter; no trace of internal structure or distinct surface markings visible.' In one species, *S. major*, one end is represented in the figure as gradually tapered, while the other is obviously broken; the specimen is 7 *in.* long and 1 *in.* in diameter.

In *S. randalli* the size is much less, but there is a distinct tapering towards each end. In speaking of the fossils, Newberry remarks that 'it is possible we have nearly the entire organism, or that it was fusiform with two conical extremities.'

The specimens are much less perfect than those described by Renault and Zeiller, but there seem to be good grounds for referring them to the same genus. If this view be taken, Newberry's generic term *Spiraxis*, according to strict rules of priority, ought to replace the more modern name of *Fayolia*.

Lester Ward's species, *Spiraxis bivalvis*, from the American Laramie beds is very imperfect; it has a length of about 4½ *ins.* and shows one tapered end, the other being apparently broken; the surface is marked by an indistinct spiral ridge; but it would be extremely rash to extend the range of *Fayolia* to the Laramie formation on such slender evidence.

The resemblance of Mr. Best's fossil to the more perfect specimens found in France is so close, that I am unable to discover any difference which would justify the institution of a new specific name. For the present, then, we may refer the Stainton fossil to *Fayolia dentata* Ren. & Zeill., and if further discoveries afford sufficient evidence of any distinctive characters in the English form, I would suggest that the name *Fayolia besti* be adopted. My own opinion is in favour of including *Fayolia* among fossil fishes rather than fossil plants; but Dr. Günther's unwillingness to fall in with this view should deter those of us who are laymen in matters ichthyological from giving expression to any very definite statements. The regularly arranged spines, as shown in Renault and Zeiller's specimens (Fig. 3), are difficult to understand on the supposition that we are dealing with a fish's egg-capsule, and the suggested comparison of these authors to pencils and 'nerves' is hardly satisfactory. It is, perhaps, worth noting that in the egg of *Callorhynchus antarcticus*,* as figured by Günther, the margin is beset with a fringe of hairs; possibly the spines of *Fayolia dentata* may represent more regularly disposed but similar hair-like appendages.

It is to be hoped that further search in the sandstones of Stainton may supply the necessary material for a more accurate determination of this puzzling genus.

*The Study of Fishes, p. 169, fig. 81.

NATURAL HISTORY IN CHESHIRE.

Proceedings | of the | Chester Society of Natural Science | and Literature. | — | No. IV. | — | — | Five Shillings. | — | Chester : | Printed and Published for the Society by G. R. Griffith, | Grosvenor Street. | — | 1894. [8vo., pp. iv. and 139 to 351, with plates and a map].

THAT natural science flourishes at Chester, thanks to the well-timed initiative of the brilliant author of 'Town Geology,' as well as of 'Westward Ho' and the 'Water-Babies,' needs not the additional evidence of the bulky part of Proceedings now before us to prove, as it is well known that in few districts is natural science cultivated with more vigour and well-directed energy than it is in the ancient city which borders so closely upon Wales as to make it necessary to include two Welsh counties in its sphere of operations.

Eight writers have contributed to the part now before us, and in no single instance is a paper inserted which is unsuitable by reason either of its travelling beyond the Society's recognised area or of its dealing with topics which refer to general as distinguished from local science. The first paper, which is by the late John Price, M.A., deals with 'Vegetable Phosphorescence' based upon observations made in Denbighshire so long ago as 1824. It is followed by two papers by Prof. T. McKenny Hughes, M.A., F.R.S., in the first of which he gives at length a series of 'Observations on the Silurian Rocks of North Wales,' illustrated by two plates of sections. The second deals with 'Caves and Cave Deposits,' mostly concerned with the Vale of Clwyd, but including detailed auxiliary notes on the Ingleborough Caves. Plans and Sections of the Cae Gwyn Cave are given in the text. The literary side of the Society is represented by a most interesting article by Mrs. Henry Sandford, upon 'The Chester Mysteries, and their connection with English Literature and the English Drama.' A series of miscellaneous 'Notes on the Natural History of the District, from 1879 to 1893,' edited by Mr. Alfred O. Walker, F.L.S., follows. Meteorology next has its share of attention, Mr. Walker giving a couple of articles, one upon 'The Climate of Chester,' and the other upon 'The Climate of the North Coast of Wales,' both giving phenological notes and statistical tables of rainfall and temperature. Mr. R. Newstead, to whom the Chester Museum is so much indebted for its distinctively local character and value, has a valuable paper on 'The Heron and Heronries of Cheshire and North Wales,' in which the subject is discussed with remarkable wealth of detail and with numerous historical facts, and illustrated by a rough lithographed plate. Mr. Newstead has also a useful paper which he modestly calls 'A Preliminary List of the Mammals of Cheshire and North Wales,' in which he enumerates

31 species, and to which is appended a list of about half-a-dozen species of parasites which have been taken off local mammals. Three excellent papers by Mr. W. Shone, F.G.S., deal with 'Subterranean Erosion, and some of its Effects,' 'The Cause of Crateriform Sand Dunes and Cwms,' and 'A Note on the Submerged Forest at Rhyl,' all dealing with problems of physical geology by the light of local evidence. 'The Spring and Summer of 1893 at Colwyn Bay' is the title of a gossipy semi-meteorological, semi-phenological dissertation by Mr. A. O. Walker, F.L.S. Another meteorological paper is by the Rev. J. C. Mitchell, B.D., F.R.A.S., who gives tables and notes of 'The Weather at Chester during the first ten (why not twelve?) months of 1893.' This is followed by a brief series of 'Zoological Observations during the Spring and Summer of 1893,' by Mr. R. Newstead, F.E.S., which, somewhat of a scrappy nature, gives notes made during the daily walk to and fro between Chester and Saltney. The concluding paper is by the President of the Society, Mr. W. Henry Dobie, M.B., on the 'Birds of West Cheshire, Denbighshire, and Flintshire,' but although last it is not least, either in bulk or in value. We omit further reference to it here, as we have been favoured with an author's reprint, and hope in a forthcoming number to give a notice of it commensurate with its value and importance. We are pleased to know that the Chester Society is in a flourishing and healthy condition, numbering at present over six hundred members, amongst whom are included a number of the keenest and most successful investigators of natural phenomena that any Society with similar aims can boast of, and in conclusion we have not only to congratulate the Chester Society on the excellent results it can show, but also in the strongest possible manner to recommend all local societies in the North of England to take a leaf from the Chester book, and confine their publications strictly to matters concerning their own districts, leaving other districts to their own investigators, and all generalities to the host of journals intended for their reception.

NOTES AND NEWS.

The Linnean Society have recently paid Mr. Thomas Hick, B.A., B.Sc., of Owens College, Manchester, the compliment of electing him an Associate of their body.

Dr. H. J. Johnstone-Lavis, of Naples and Harrogate, who occupies the chair of Vulcanology in the Neapolitan city, has an address on 'The Science of Vulcanology' printed in *Nature* for May 17th, 1894.

Mr. John Stears describes the Humber channel as altering. The Goole and Antwerp steamers cannot now use the channel between Ferriby Sluice and Reid's Island, which was once the deepest part of the estuary, but vessels have to go north of it now.

THE CONSTITUENTS OF THE NORTH LANCASHIRE FLORA, 1597(?) - 1893.

LISTER PETTY,

Ulverston.

THIRD PAPER.

Alyssum maritimum L. *Koniga* R. Brown.

1885. Baker's Flora, 34. Grange-over-Sands, I. Hindson.¹

1892. Naturalist, 83. On the sea-wall, north of Kent's Bank; an escape from garden patch of signal-box east of Grange, L. Petty.

1890 and 93. Hankinson's and Atkinson's Guides, included in the above authority.

Erophila vulgaris DC. *Draba verna* L. C.F.R., 1597.

1874. J. of B., Miss E. Hodgson (as *brachycarpa* Jord.). From shore to top of Birkrigg, near Ulverston; and wall tops in High Furness. 1885. Baker's Flora, 33-4, Miss Hodgson, rep.

Cochlearia officinalis L. *C. rotundifolia* Ger. C.F.R. 1597.

1670. Ray, Cat., ed. 1, 75. 'ad mare variis locis, præsertim litoribus Cumberlandiæ et Lancastriæ.' 1690. Ray, Syn., ed. 1, 115-16. above repeated. 1693. Ray, Hist., 1, 822. 'ad locis maris sponte oritur . . . præsertim . . . Lancastria.' 1724. Ray, Syn., ed. 3, 362. Sea shore, Lancashire. 1744. Wilson, Syn., 184. . . near the sea, especially . . . Lancashire. 1857. Phytologist, 257. Shore below Humphrey Head, Dr. Windsor. 1874. J. of B., Miss E. Hodgson.² 'vars., ditches and marshes, Plumpton to the Duddon.' 1885. Baker's Flora, 31. On the shore at Flookburgh, J. G. Baker.

¹ See Britten and Boulger's 'Index,' 1893, p. 83. But his business is not given; he was a wine merchant at Kirkby Lonsdale. His herbarium is still in the possession of his family, I was told in 1892. I regret I had not time to make the requisite enquiries.

² For biographical details of Miss Hodgson, of Ulverston, see Baker's 'Flora,' 1885, p. 11, and Britten and Boulger's 'Index,' p. 83, and the references there given. Unfortunately the botanical workers of North Lancashire have generally been men who have not especially distinguished themselves, and are therefore shut out from the 'Index.' Even Lawson is so little known in this district that he is omitted from Mr. Casson's interesting 'A Few Furness Worthies' (Ulverston 1889, 8vo.). For Lawson see the 'Index,' p. 101, and 'Westmorland Note Book,' 1888-89. (For an account of his Note Book, see 1889, pp. 182-186.) There is a good account of him and his early troubles in Webb's 'Fells of Swarthmoor,' 1865. The D. N. Biog. article is by no means so good as one might have expected.

Cochlearia alpina Wats.as *C. officinalis* L.

1805. Turner and Dillwyn, Bot. Guide, ii., 370. On the mountains above Coniston Lake, Woodward. **1835.** Watson, New Bot. Guide, i, 299. Woodward rep., but ascribed to 'B.G.'

as *C. alpina*.

1874. J. of B., Miss E. Hodgson. Ghylls on Dobby Shaw. Seathwaite Fells. **1885.** Baker's Flora, 31. Woodward, and Miss Hodgson's first locality repeated—the other altered to 'Seathwaite Fells, and carried thence down the Duddon Estuary.'

Cochlearia danica Linn.

C.F.R., 1576.

Cochlearia minor folio anguloso parvo Lawson. Reported by Lawson to Ray, April, 1688.

1688. Ray. Fasc. stirp. Brit., 4. In Walney. Lancastriæ insula. Lawson. **1690.** Ray. Synop. ed. i., 116. Above rep. but called *C. marina folio*, etc. Ray says, 'An a præcedente differat mihi nondum satis constat.' **1693.** Ray Hist. ii. Placed at end of preface. In Walney Island. Dr. Thomas Lawson. **1695.** Camden, ed. Gibson, 803. Walney Island. And repeated in 1696. Ray. Syn. ed. ii., 173. **1718.** Derham. Phil. Let., 215. Lawson's letter to Ray, 1688. **1724.** Ray. Syn. ed. iii., 303. **1744.** Wilson. Syn., 185. **1762.** Hudson, Fl. Ang., 248, and **1778.** Hudson, ed. ii., 284. **1775.** Jenkinson, Brit. Plants, 150, but referred to Ray's *Synopsis*. **1776.** Withering, ed. i., 393. (No finder.) **1778.** Robson, Flora, 121. (No finder.) **1787.** Withering, ed. ii., 679. (Ascribed to Ray.) **1789.** Camden, ed. R. Gough. (No finder.) **1789.** Berkenhout, Synop., 196. 'On the Lancashire coast.' **1796.** Withering, ed. iii., 573. **1800.** Eng. Bot., ed. i., vol. 10, 696. 'Lawson appears to have discovered this plant in Walney Island, Lancs.' **1800.** Smith, Flor. Brit. ii., 689. **1801.** Withering, ed. iv., 562. **1805.** Turner and Dillwyn, Bot. Guide ii., 370. **1805.** West. Antiq., ed. Close, 377. Walney. Atkinson. **1807.** Miller, Dict., ed. Martyn, vol. i., pt. 2. **1812.** Withering, ed. v., 709, and **1818,** Withering, ed. vi., 760. **1829.** Smith, Eng. Flora, ed. ii., 3, 177. **1830.** Withering, ed. vii., 762-3. As before. **1835.** Watson, New Bot. Guide, i., 299. ('B. G.') **1842.** Evans, Furness and Furness Abbey, 24. Atkinson inferred. **1843.** Jopling, Furness and Cartmel, 259. Walney, Aiton. **1848.** Ray Corres.; Ray Soc., 197. Lawson to Ray, 1688 (in full). **1861.** Phytologist, 259. Shore below Humphrey Head, west side, Dr. Windsor. **1862.** Phytologist, 259. Dr. Windsor repeats. **1878.** J. of B., 88. 'A specimen in Miss Hodgson's Herbarium in Brit. Mus. from Walney Island,' James Britten. **1885.** Baker's Flora, 32. Lawson and

Dr. Windsor rep. Summerhill Bank, I. of Walney, Miss E. Hodgson. Barrow, in the excavations for the new docks, C. Bailey. 1889. Westm. Note-book, 72-3. Lawson rep. in Mr. Martindale's 'Early West. Plant Records.'

Cochlearia anglica L. C.F.R., 1570.

1843. Jopling, F. and C., 258. Near Conishead Priory, Aiton; and Flookborough, Cartmel, Wilson. 1869. Aspland, Guide. Within six miles of Grange, A. Mason. 1885. Baker's Flora, 32-3. Aiton and Wilson rep. Tidal Banks, Low Meathop, C. Bailey. Grange-over-Sands, W. Mathews. Of Aiton's station Mr. Baker says: 'What I saw there was *C. officinalis*.'

Cochlearia Armoracia L. C.F.R., 1648, should be 1548.

Armoracia rusticana Baumg.

1885. Baker's Flora, 33. Grange-over-Sands, J. G. Baker.

Sisymbrium Thaliana Hook. *Arabis thaliana* L. C.F.R., 1634.

1874. J. of B., Miss E. Hodgson. Wall tops and hedge banks, frequent.

Sisymbrium officinale Scop. C.F.R., 1597.

Erysmium vulgare C. B.; Park.

1680. See 1889. 1864. Linton, Lake Country, 319. 'Common,' no locality. 1874. J. of B., Miss E. Hodgson. No locality. 1885. Baker's Flora, 37. 'Ascends to 250 yards at Coniston,' J. G. Baker. 1889. Westm. Note-book, 184. Rampside, Lawson. In Mr. Martindale's extracts from 'Lawson's Note-book,' circ. 1680.

Sisymbrium Allaria Scop. *Erysmium allaria* L. C.F.R., 1538.

1864. Linton, Lake Country, 319. 'Common,' no locality. 1874. J. of B., Miss E. Hodgson. No locality.

Brassica Napus L.

1874. J. of B., Miss E. Hodgson. Stubble-fields.

Brassica campestris L.

1864. Linton, Lake Country, 319. 'Common,' no locality.

Brassica Rapa L. C.F.R., 1640.

1874. J. of B., Miss E. Hodgson. Inner slope of Biggar Dyke, Isle of Walney.

Brassica monensis Huds. C.F.R., 1670 (in I. of M.).

Eruca monensis laciniata lutea Lawson. (Reported by Lawson to Ray in April 1688).

1690. Ray, Syn. ed. i., 112. . . . 'also between Marshgrainge and the Isle of Walney, but not plentifully,' Lawson, and rep. 1695. Camden ed. Gibson, 803. 1696. Ray, Syn. ed. ii., 169.

1718. Derham. Phil. Lett., 216. Lawson letter to Ray in 1688.
1724. Ray, Syn. ed. iii., 297. **1744.** Wilson, Syn. 179. **1762.** Hudson, Fl. Ang. ed. i., 258 (as *Sisymbrium murale* L.) and in ed. ii., 1778, 291. **1778.** Robson, S. Flora, 128, as *S. murale* L., but he refers to Lawson's name. **1787.** Withering, ed. ii., 679. 'Marsh Grange and Walney, Ray.' **1789.** Camden, ed. Gough, 145. Between Marsh Grange Farm, etc. **1796.** Withering, ed. iii., 593-4. Lawson's rep., but ascribed to Ray. Walney Island. Atkinson. **1801.** Withering, ed. iv., 581-2, as in ed. iii. **1802.** Sowerby and Smith, Eng. Bot., ed. i., vol. 14, 962. 'Our wild specimen was gathered on the Isle of Walney by W. Hustler, Esq., in June 1801. **1805.** West. Antiq., ed. Close, 377. Atkinson rep. **1805.** Turner and Dillwyn, Bot. Guide II., 370. Lawson and Hustler rep. **1812.** Withering, ed. v., 733-4, as before. **1818.** Withering, ed. vi., 786, as before. **1829.** Smith, Eng. Flora, ed. ii., vol. 3, 220. 'Walney, Ray.' **1830.** Withering, ed. vii., 784-5, as before. **1835.** Watson, New Bot. Guide I., 300. Lawson and Atkinson rep., but ascribed to 'B.G.' **1842.** Evans, Furness and F. Abbey, 23 (as in Gough's Camden). **1843.** Jopling, Furness and Cartmel, 259, Walney, Aiton. **1848.** Ray, Corres. Ray Soc., 197, et seq. Lawson's Letter to Ray, 1688, as *Sinapis M.* (Bab.). **1858.** Irvine, A. Handbook, 704. Lancashire and Cheshire. **1885.** Baker's Flora, 39 (as *Sinapis M.* Bab.). 'Walney Island and thence along the shore of the mainland to Grange; first recorded by Thos. Lawson.' **1889.** Westm. Notebook, 73. Lawson rep. in Mr. Martindale's 'Early West. Plant Records.'

Brassica Sinapis Vis. *Sinapis arvensis* L. C.F.R., 1548.

1864. Linton, Lake Country, 319. 'Common,' no locality.

1874. J. of B., Miss E. Hodgson, no locality.

Brassica alba Boiss. C.F.R., 1633.

1893. Naturalist, 355. On the banks, shore end of Crown Pier, Grange. A garden outcast. L. Petty.

Capsella Bursa-pastoris Mœnch. C.F.R., 1548.

1864. Linton, Lake Country, 319. 'Common,' no locality.

1874. J. of B., Miss E. Hodgson, no locality.

[**Brassica pomifera capitata** Anglo-Britannica.

1655. Lobel, M. de. Stirp. Illust., 82. 'In quadam insula Lancastriæ Anglo Britannicæ vicina Brassicam capitatam Pomiferam vescam tradit vir generosus D. Hesketh,¹ hujus studii Botanici amantissimus, pluribus pomis capitatam, instar Brassicæ polycephal : ; quam, quia mihi non conspecta, nihil asserere audeo.']

¹ Hesketh was a surgeon, and practised some time at Clithero; but see Britten and Boulger's 'Index,' 81.

- Lepidium campestre** RBr. L. C.F.R., 1570.
 1864. Linton, Lake Country, 319. 'Common,' no locality.
 1885. Baker's Flora, 31. Barrow-in-Furness.
- Lepidium Smithii** Hook. C.F.R., 1670.
 1874. J. of B., Miss E. Hodgson, no locality. 1885. Baker's
 Flora, 31. Yewdale, Coniston Village, Colton Beck Bridge, Newby
 Bridge, Newton-in-Cartmel, Cartmel.
- Lepidium Draba** L. C.F.R., 1830.
 1854. Phytologist, 47. A patch by the Ulverston Road, at
 Newby Bridge, 1853, W. Borrer. 1861. Miss Martineau's Guide.
 Near Newby Bridge. 1885. Baker's Flora, 31. Borrer rep.
- Iberis amara** L. C.F.R., 1778.
 1874. J. of B., Miss E. Hodgson. Margin of Jacklands Tarn,
 Low Furness. A garden escape. On p. xv. of the reprint of her
 articles from J. of B. 'North or Lake Lancashire,' she says: 'since
 completing my list for the press, I have been informed that this old
 clay-pit once belonged to a gardener.' In J. of B., 1875, p. 78, in
 reply to a query by Dr. Trimen about other aliens, the species is
 repeated as growing at Jacklands in the company of other aliens.
 1885. Baker's Flora, 31. Miss Hodgson rep. 1892. Naturalist, 83.
 Coniston, in a wood near Hollin Bank. Probably an outcast from
 garden there, L. Petty.
- Crambe maritima** L. *Brassica marina monospermos*. C.F.R., 1551.
 1680. See 1888. 1787. Withering, ed. ii., 719. Roosebeck, in
 Low Furness, Woodward, and rep. 1796, Withering, ed. iii., 563.
 1801. Withering, ed. iv., 551-2. 1805. West Antiq. ed. Close, 377.
 Walney, Atkinson. 1805. Turner and Dillwyn, Bot. Guide, Wood-
 ward rep. 1812. Withering, ed. v., 696. 1818. Withering, ed. vi.,
 747. 1830. Withering, ed. vii., 751. 1835. Watson, New Bot.
 Guide, i., 299, but ascribed to 'B.G.' 1835. Baxter, Phænog. Bot.,
 vol. ii., 107. 1842. Evans, Furness, and F. Abbey, 24. Atkinson, rep.
 1843. Jopling, Furness, and Cartmel, 259, Walney, Aiton. 1874.
 J. of B., Miss E. Hodgson. No locality. 1885. Baker's Flora, 29,
 Woodward and Atkinson, rep. T. Gough, C. Bailey, Miss Hodgson.
 1888. Westm. Note-book, 184, Lawson, rep. in Mr. Martindale's
 extracts from Lawson's Note-book, circ. 1680, as *B. marina*, etc.
 'By Joseph Sharp's on the sea-shore, and between Aldingham and
 Roosebeck.' 1892. Naturalist, 81, Atkinson rep. 'almost eradicated
 now, 1891,' L. Petty.
- Cakile maritima** Scop. *Eruca marina* Ger. C.F.R., 1570.
 First reported by Lawson to Ray, April 1688.
 1718. Derham, Philos. Lett., 216. Lawson's letter to Ray, 1688.
 Roosebeck in Furness, also in the Isle of Walney, Lawson. 1805.

West. Antiq., ed. Close, 377 (as *Bunias Cakile*). Given as a plant of Walney Island. It is stated that the list by Atkinson is as in ed. iii. of Withering, but that edition contains no such reference. Atkinson must have included it—when revising his list for West. **1842.** Evans, Furness and F. Abbey, 23. Atkinson rep. **1843.** Jopling, Furness and Cartmel, 259. Walney, Aiton. **1848.** Ray Corres., Ray Soc., 197, et seq. Lawson to Ray. Lawson rep. in full. **1874.** J. of B., Miss E. Hodgson, no locality. **1885.** Baker's Flora, 28-9. Lawson rep. and noted as earliest record. **1888.** Westm. Note-book, 73. Lawson rep. in Mr. Martindale's 'Early Westm. Plant Records.'

Raphanus Raphanistrum L. C.F.R., 1597.

1885. Baker's Flora, 39. 'I have seen it at 300 yards over Coniston,' J. G. Baker.

Raphanus maritimus Sm. C.F.R., 1696.

1892. J. of B., 25. Shore near Rampside, L. Petty.

Neslia paniculata Desv.

1885. Baker's Flora, 39. Waste ground at Grange-over-Sands, F. C. Roper.

Reseda lutea L. C.F.R., 1597.

1874. J. of B., Miss E. Hodgson. Near Ulverston, doubtfully wild, Miss M. A. Ashburner. **1885.** Baker's Flora, 40, above rep.

Reseda Luteola L. C.F.R., 1570.

1874. J. of B., Miss E. Hodgson, no locality. **1885.** Baker's Flora, 40. Waste ground at Newland (near Ulverston), Miss E. Hodgson. Road-side at Kent's Bank, on limestone, J. G. Baker.

Helianthemum marifolium Mill. *H. canum* Dun. C.F.R., 1690.

Chamæcistus seu Helianthemum folio Pilosellæ minoris Fuchsii J.B.¹

1696. Ray. Syn., ed. 2, 203. On the rocks about Cartmel Wells, in Lancashire, plentifully, Mr. Fitz-Roberts; and repeated in **1724.** Ray. Syn. ed. 3, 342. **1762.** Hudson, Fl. Ang. ed. 1, 206 (*H. hirsutus*). **1775.** Jenkinson, Brit. Plant., 115. **1778.** Robson, S., Brit. Flora, 117-18 (*H. marifolius*). **1778.** Hudson, ed. 1, 232, 3 (*H. canum*). **1787.** Withering, ed. 2, 557 (*C. anglicus*) and 'Ray,' for Fitz-Roberts. **1789.** Camden, ed. R. Gough, 145. **1796.** Withering, ed. 3, 490-91, as before. **1797.** Sowerby and Smith,

¹ Called by Newton, its discoverer in Westmorland—and in England—'chamæcistus montanus folio latiore incano,' in 1690, Ray. Syn. ed. 1., 142. For Fitz-Roberts see Britten and Boulger's 'Index,' p. 144, under his other name, John Robinson.

Eng. Bot., ed. 1, vol. 6, 396; 'Grows on rocks in Westm. and Lancashire, but rarely. We received it from Mr. Robson.' 1800. Smith, Flor. Brit., ii., 572, above rep., but 'Ray.' 1801. Withering, Ed. 4, 481, as before; and 'on Humphrey Head, Cartmel, Rev. Mr. Jackson.' ('Rocks about Cartmel Wells,' and 'Humphrey Head,' are exactly the same locality.) 1805. Turner and Dillwyn, Bot. Guide, ii., 369, as in Withering, but 'Wells,' misprinted 'Fells.' 1807. Miller, Dict., ed. Martyn, vol. i., pt. i.; Fitz-Roberts rep. 1812. Withering, ed. 5, 601-2, as before. 1818. Withering, ed. 6, 650, as before. 1828. Curtis, Flor. Lond., vol. 5, 171. Fitz-Roberts rep. 1829. Smith, Eng. Flor., ed. 2, vol. iii., 23, 'Ray.' 1830. Withering, ed. 7, 658. Jackson omitted. 1830. Hooker, W. J., Brit. Flor., ed. 1, 257-8, Lancashire. 1835. Watson, New Bot. Guide, i., 300, as in Bot. Guide, misprint too, and instead of the real finders 'B.G.' 1835. Hooker, ed. 3, 261, as in 1830. 1838. Hooker, ed. 4, 213, as before. 1842. Hooker, ed. 5, as before. 1847. Watson, Cybele, I., 171-2, 'and the northern extremity of Lancashire.' 1850. Hooker and Arnott, ed. 5, 44, as in 1830. 1855. Hooker and Arnott, ed. 7, as before. 1856. Phytologist, 353. Humphrey Head. Dr. Windsor. 1857. Phytologist, 257, rep. 1860. Hooker and Arnott, ed. 8, as before. 1860. Phytologist, 260; Dr. Windsor, rep. 1861. Phytologist, 237, loc. rep., C. J. Ashfield. 1862. Phytologist, 259; Dr. Windsor, rep. 1864. Linton, Lake Country, 319, loc. rep. 1864. Naturalist, 39, loc. rep. Leo H. Grindon. 1865. Eng. Bot., ed. 3, II., 9, loc. rep. 1869. Aspland's Guide. Within six miles of Grange. A. Mason. 1873. J. of B., 370, loc. rep. Rev. W. M. Hind. 1885. Baker's Flora, 41. Mentions 'Ray's' locality; and 'I saw it there in plenty in 1883.' J. G. Baker. 1888. Westm. Note-book, 73 (as *marifolium*). Fitz-Roberts rep. in Mr. Martindale's 'Early Westm. Plant Records.' 1890. Hankinson's Guide. 1892. Haviland, Distrib. Disease, 374, as *canum*.

Helianthemum chamæcistus Mill. *H. vulgare* Gærtn. C.F.R., 1570.

1843. Jopling, Furness and Cartmel, 259. Bardsea Park, Aiton. Humphrey Head, Wilson. 1857. Phytologist, 257. Top of Humphrey Head, Dr. Windsor. 1860. Phytologist, 259, rep. 1861. Phytologist, 260. Roughholme, C. J. Ashfield. 1869. Aspland's Guide. Within six miles of Grange, A. Mason. 1874. J. of B., Miss E. Hodgson. Near Dalton-in-Furness. Roudsea Wood. Humphrey Head. Rocky woods about Grange. 1885. Baker's Flora, 40. Aiton, Wilson, and Miss Hodgson rep. Hill above Grange. 1890. Hankinson's Guide. 1892. Haviland, Distrib. Disease, 374.

var. **H. Tormentosom.**

1843. Jopling, Furness and Cartmel, 259. Humphrey Head, Wilson. 1885. Baker's Flora, 41. Wilson rep.

Viola palustris L. C.F.R., 1677.

1843. Jopling, Furness and Cartmel, 259. Near Ellerside mosses (Wilson) and wet ground about Ulverston (Aiton). 1874. J. of B., Miss E. Hodgson. Plumpton Peat Moss.

Viola odorata L. C.F.R., 1629.

1843. Jopling, F. & C., 259. About Ulverston (Aiton) and Holker Hall (Wilson). 1874. J. of B., Miss E. Hodgson. *Forma* 'violacea.' Fringing outer side of Plumpton woods walls, and on the beach below. Found also in other spots, but local. *Forma* 'lilacina.' Hedges near Ulverston, more rare. 1885. Baker's Flora, 41. Aiton, Wilson and Miss Hodgson rep., the 'forms' merged in the type. Hedge-banks at Grange and Allithwaite, J. G. Baker.

Viola alba Besser. (? 1666).

1874. J. of B., Miss E. Hodgson. Hedges near Ulverston.

Viola hirta L. C.F.R., 1666.

1843. Jopling, Furness and Cartmel, 259. Waitham Wood, near Holker, Wilson. Woods around Conishead Priory, Aiton. 1874. J. of B., Miss E. Hodgson. Plumpton Woods. 1885. Baker's Flora, 42. Aiton, Wilson and Miss Hodgson rep. Yewbarrow; Banks between Grange and Lindale, J. G. Baker.

Viola sylvatica Fries. C.F.R., 1632.

1874. J. of B., Miss E. Hodgson, no locality. *V. Riverina* Reichb., frequent.

Viola Reichenbachiana Bor. C.F.R., 1861.

1874. J. of B., Miss E. Hodgson. About Newfield and Seathwaite. 1885. Baker's Flora, 42. Above rep. 'and at 700 feet on the banks of Cockley Beck,' Rev. H. Higgins and J. G. Baker.

Viola canina L. C.F.R., 1724.

1864. Linton, Lake Country, 319. Common, no locality. 1874. J. of B., Miss E. Hodgson, no locality. She also includes *V. flavicornis* Sm., but no locality.

Viola tricolor L. C.F.R., 1548.

1864. Linton, Lake Country, 319. Common, no locality. 1874. J. of B., Miss E. Hodgson, no locality.

Viola arvensis Murr. C.F.R., 1597.

1874. J. of B., Miss E. Hodgson, no locality.

LINCOLNSHIRE NATURALISTS' UNION AT LINCOLN.

THE third meeting of the above Union was held at Lincoln on Thursday, May 24th, 1894, and was fairly well attended, there being present representatives of all the sections.

This meeting was not only an excursion, but also the Annual Meeting for 1893, which had been intentionally delayed in order to secure a good attendance of members. The district chosen for investigation was a peculiarly attractive one. Very little as yet has been done at the natural history of Lincolnshire, and Lincoln, despite the fact of being the county town, has not escaped the general fate. Many new and interesting records were made, and the members generally were well satisfied with the results of the excursion.

The marshy nature of the surrounding country, with its abundance of old ponds and drains, advantageously varied in places with well-wooded tracts, not too carefully 'preserved,' proved an ideal spot for the naturalist, and well repaid the investigator.

Permission to pass over their estates had been kindly given by Nathaniel Clayton-Cockburn, Esq., J.P., of Hartsholme Hall, a life member of the Union, and Colonel R. G. Ellison, J.P. The best thanks of the Union are also due to Mr. Alfred Fieldsend, of Lincoln, for the assistance he so willingly gave the Hon. Secs. in making the preliminary arrangements.

The route arranged was by Brayford, along the bank of the Foss-dyke, then passing by the Swan Pools Cross to North Hykeham, passing through Hartsholme Woods, the whole route being in 'South' Lincolnshire.

By 4.30 p.m. most of the members had found their way back to Lincoln, and after partaking of much-needed and well-earned refreshment at the Saracen's Head Hotel, the meeting was held, Mr. F. M. Burton, F.L.S., F.G.S., the President for 1894, being in the chair.

The sectional reports were first given.

For the Geological Section, Mr. Burton reported as follows:—
The escarpment on which Lincoln stands is composed throughout of Lias Beds, with a capping of Oolite Limestone. The Lias is represented by all its three divisions, Upper, Middle, and Lower. The Upper, which can be studied in several brick-pits in the neighbourhood, contains many Belemnites with *Ammonites bifrons*, *Am. serpentinus*, *Am. communis*, *Nucula hammeri*, etc., may be well seen in Messrs. Swans' brickyard on the North Cliff, where it attains a thickness of about 100 feet. The Middle, to which access is

also given by brick pits, is represented by the Marlstone or its equivalents, and by the clay beds below, which in places are ferruginous with phosphatic nodules and septaria. This series has yielded *Am. margaritatus*, Rhyconellas, Ichthyosaurs, Plesiosaurs, fossil wood, etc. The Lower, which can best be seen to the south of Lincoln, only appears in small quantities at the base of the cliff, from whence it runs in a westerly direction till it meets the Rhoetic Beds beyond Thorney, at North Scarle, Kettlethorpe, and other places. This latter series, though covering so wide a surface area, is not easy of access, large tracts of it being covered up by alluvial and river deposits, and boulder clay. The Oolite capping at the top, which is about 18 feet in thickness, forms part of the Inferior Oolite, and is known as the Lincolnshire Limestone, out of which the Cathedral is built. Its basement beds can be studied in the fields to the east of Lincoln, leading to Greetwell, where hard beds of the Northamptonshire Sand are being worked for iron. The Inferior Oolite passes into the Great Oolite series at Nettleham and other places, the highest beds of which, known as Cornbrash, abound in fossils, and may be seen on the surface beyond Greetwell, and at Sudbrooke, etc. These are followed in due course by the Kellaways Rock beds, which crop out at Cherry Willingham and other places, and which in turn dip under the Oxford Clay.

The Botanical Section was officially represented by Rev. W. Fowler, M.A., and Rev. E. A. Woodruffe-Peacock; and Mr. J. S. Sneath, Mr. B. Crow, and Rev. R. W. Goodall were also present.

The Rev. E. A. Woodruffe-Peacock supplies the following report:—Over a hundred plants were observed. I publish a larger list than usual as many of them have only been recorded once, and some not at all for South Lincs. 52. It has been sadly neglected till now. *Ranunculus circinatus* Sibth., *R. floribundus* Bab., *Berberis vulgaris* L., *Alyssum calycinum* L. (alien), *Sisymbrium thalianum*, *Lepidium campestre* R.Br., *Viola palustris* L., *V. sylvatica* Fr. (*V. riviniana* Reichb.), *V. tricolor* L. (*V. eu-tricolor* Syme), *V. arvensis* Murr., *Polygala depressa* Wend., *Cerastium glomeratum* Thuiller, *Sagina procumbens* L., *Spergularia rubra*, *Montia fontana* L., *Impatiens noli-me-tangere* L. (alien) Boutham Wood, *Genista anglica* L., *Trifolium subterraneum* L.—our best find—a first record for S. 52—only three localities known; *Ornithopus perpusillus* L., *Comarum palustre* L., *Anthriscus vulgaris* Pers., *Gatium saxatile* L., *Valeriana officinalis* L., *Valerianella dentata* Poll., *Senecio aquaticus* Huds., *Onopordum acanthium* L. (alien), *Silybum marianum* Gært. (alien), *Tragopogon minor* Fries (the type does not grow with us), *Menyanthes trifoliata* L., *Myosotis versicolor* Reichb., *Lithospermum*

arvense L., *Stachys palustris* L., *Lamium amplexicaule* L., *Scleranthus annuus* L. (an uncommon plant with us), *Potamogeton prælongus* Wulf., *P. densus* L. (a small depauperate form), *Carex acuta* L., *Alopecurus geniculatus* L., *Festuca ovina* L., *Bromus sterilis* L., *B. mollis* L., *Equisetum palustre* L., *E. limosum* Smith, and *E. fluviatile* Syme. Botanically speaking this was the best day the Union has ever had yet.

On the 25th, Mr. F. M. Burton, Rev. W. Fowler, and Rev. E. A. Woodruffe-Peacock continued their labours by hunting the localities for *Cardamine amara* L., *Rosa spinosissima* L., and *Orobanche major* L., given on the type specimens in the County Herbarium, but without success in any case. During the day they came across the following good plants for North Lincs, 53: *Ranunculus penicillatus* Hiern, *Brassica cheiranthus* Vill., and *Medicago maculata* Sibth. The latter on the bank of the Trent; and I may add, for it is a first record, that Miss Lane-Claypon showed me a specimen from a similar place on the Forty Foot Drain, Wyberton (South Lincs. 52) this season.

On the South of the Foss Dyke at Saxilby (South Lincs., 52) we found *Barbarea stricta* Andrz., *Cerastium glomeratum* Thuill., and *Carex paludosa* Good.

The Conchological Section was represented by Mr. Frederick W. Fierke, of Hull, who reports as follows:—As it had been announced that the mollusca of the district had been only partially, if at all, investigated, it was for the members of the section present on this occasion to furnish practically an initial list. The section was represented by Mr. W. Denison Roebuck, F.L.S., of Leeds, and the Hon. Sec., Mr. F. W. Fierke, of Hull. The day was unfavourable to the pursuit of the terrestrial mollusca, the ground being exceedingly dry. Luckily, however, the district soon gave ample evidence of an alternative programme, and the conchologists, with the aid of their scoops, had their time fully and profitably occupied. The pools and ditches teem with molluscan life of a varied and most interesting character. Conchological operations were almost exclusively confined to the Foss Dyke and the adjoining pools of water. In Foss Dyke, *Viviparus viviparus* (L.) occurred in great abundance, whilst in the pool close by *Viviparus contectus* was observed in less numbers and existing under somewhat different conditions. *Dreissensia polymorpha* was found attached to stones, wood, and the roots of plants, and was also very abundant. In a field covered with marshes, *Bullinus hypnorum* was very plentiful, and appeared to hold almost absolute possession, *L. peregra* being the only species taken with it. At the conclusion of the day's work it appeared that 7 terrestrial and 25 aquatic, or a total number of 32 species of mollusca,

had been collected. The following constitute the complete list:—*Dreissensia polymorpha*, *Pisidium pusillum*, *Sphærium corneum*, *Anodonta cygnea* (Foss Dyke), *Planorbis fontanus*, *P. nautilus*, *P. albus* (Foss Dyke), *P. vortex*, *P. carinatus*, *P. umbilicatus*, *P. corneus*, *P. contortus*, *Bullinus hypnorum*, *Physa fontinalis*, *Limnæa peregra*, *L. auricularia* (Foss Dyke), *L. stagnalis*, *L. palustris*, *L. truncatula*, *Velletia lacustris* (Foss Dyke), *Viviparus viviparus*, *V. contectus*, *Bythinia tentaculata*, *B. leachii*, *Valvata piscinalis*, *V. cristata*, *Agriolimax lævis*, *Hyalinia nitidula*, *H. fulva*, *Helix aspersa*, *H. nemoralis*, *H. hispida*, and *Cochlicopa lubrica*.

The Entomological Sectional report was given by Mr. Walter F. Baker:—The entomologists present included the Rev. W. W. Fowler, M.A., Rev. G. H. Raynor, M.A., Rev. Alfred Thornley, M.A., and Messrs. Walter F. Baker, Joseph Coe, R. W. Goulding, and E. J. Slater. The day was fairly fine and the captures were fairly numerous, though none of them particularly rare. Coleopterous larvæ were numerous, the following being found in that stage:—*Acilius sulcatus*, *Dytiscus marginalis*, *Hydrobius fuscipes*, *Ilybius (ater?)*, *Timarcha coriaria*, *Scolytus (sp.?)*, and *Rhagium bifasciatum*. The last-named entered the pupal stage on July 3rd, and assumed the perfect form on July 20th.

The following is a list of the Lepidoptera taken during the day:—

<i>Vanessa urticæ.</i>	<i>Grapholitha tetraquetra.</i>	
<i>Pieris rapæ.</i>	<i>Catoptria ulicetana.</i>	
<i>P. napi.</i>	<i>Cnephasia musculana.</i>	
<i>Polyommatus phlæas.</i>	<i>Teleia proximella.</i>	
<i>Anthocharis cardamines.</i>	<i>Porthesia auriflua</i>	} larvæ.
<i>Fidonia atomaria.</i>	<i>Metrocampa margaritata</i>	
<i>Tephrosia punctulata.</i>	<i>Xanthia silago</i>	
<i>Panagra petrarica.</i>	<i>Ypsipetes elutata</i>	
<i>Cabera pusaria.</i>	<i>Cheimatobia brumata</i>	
<i>Melanippe fluctuata.</i>	<i>Hybernia defoliaria</i>	
<i>Platypteryx falcula.</i>	<i>Chelonia plantaginis.</i>	
<i>Eupithecia lariciata.</i>	<i>Fidonia piniaria.</i>	
<i>Macaria liturata.</i>		

Mr. F. M. Burton, F.L.S., F.G.S., has obtained the following in the neighbourhood of Lincoln:—

<i>Grapta C-album.</i> Abundant in Skellingthorpe Woods.	<i>Diaphora mendica.</i>
<i>Chrysophanus phlæas.</i> White, in same locality.	<i>Aplecta occulta.</i> Love Lane; on sugar.
<i>Acherontia atropos.</i>	<i>Hydræcia nictitans.</i> Sugar on trees at Burton.
<i>Macroglossa stellatarum.</i>	<i>Trachea piniperda.</i>
<i>Peridea trepida.</i> Bred from larva.	<i>Psilura monachia.</i> At rest on tree-boles; Burton.
<i>Leiocampa dictæa.</i> Bred from larva.	

Mr. J. F. Musham has also obtained the following in the neighbourhood of Hartsholme and Doddington:—

Pieris brassicæ.
Pieris rapæ.
Pieris napi.
Anthocharis cardamines.
Colias edusa.
Rhodocera rhamni.
Thecla W-album.
Polyommatus phlæas.
Lycæna ægon.
Apatura iris (rare).
Vanessa polychloros.
Vanessa urticæ.

Vanessa io.
Vanessa atalanta.
Vanessa cardui.
Argynnis selene.
Argynnis euphrosyne.
Argynnis paphia.
Epinephele janira.
Cœnomympha davus.
Thanaos tages.
Hesperia sylvanus.
Carterocephalus paniscus.

The following Coleoptera were obtained :—

Carabus catenulatus.
Clivina collaris.
Dyschirius globosus.
Bembidium guttula.
Bembidium littorale.
Deronectes assimilis.
Cœlambus versicolor.
Laccophilus interruptus.
Rhantus exoletus.
Agabus sturmii.
Dytiscus marginalis.
Cercyon unipunctatus.
Cercyon hemorrhoidalis.
Sphæridium bipustulatum.
Aleochara lanuginosa.
Aleochara fuscipes.
Lesteva longelytrata.
Stenus similis.
Stenus discoideus.
Luperus flavipes.
Lathrobium elongatum.
Anthobium torquatum.
Oxytelus complanatus.
Philonthus æneus.
Choleva velox.
Choleva sericea.
Choleva tristis.
Omosita discoidea.

Omosita colon.
Nitidula bipustulata.
Silpha thoracica.
Silpha rugosa.
Aphodius rufipes.
Aphodius depressus.
Aphodius ater.
Aphodius constans.
Aphodius merdarius.
Geotrupes stercorarius.
Phyllobius alneti.
Phyllobius pyri.
Phyllobius pomonæ.
Phyllobius argentatus (birch trees).
Polydrusus cervinus.
Polydrusus pterygomalis.
Rhynchites betuleti (birch trees).
Balaninus brassicæ.
Orchestes rusci.
Ceuthorhynchideus troglodytes.
Gastrophysa polygoni.
Prasocuris phellandrii.
Prasocuris marginella.
Cassida viridis (drain-side).
Mantura rustica.
Timarcha coriaria.
Limonius minutus.
Xylobius piniperda.

Acanthosoma griseus and *A. scutatum* (Hemiptera) were also obtained.

Mr. Alfred Fieldsend, who gave the report of the Vertebrate Section in the absence of its officers, stated that there had not been observed any species of particular note, but it will be of interest to repeat his notes given in the circular of the meeting, wherein he wrote :—

Commencing at Brayford Pool, not much will be expected from a situation so exposed; though, in passing, the Mute Swans will be observed nesting on the island. The Common Gull, Kittiwake, and Black-headed Gull—mostly immature—occasionally linger here.

On reaching the Foss-bank a search amongst the aquatic growth will expose numbers of the usual summer visitants, the Sedge and Reed Warblers and Black-headed Bunting. The Yellow Wagtail, Meadow Pipit and Skylark, Whinchat and Willow Wren, I have found nesting on the bank-side. The marshy fields near Skellingthorpe Ferry are the favourite breeding-grounds of the Redshank, Green Plover, and Full Snipe. In the winter flocks of Golden, and a few Grey Plovers can be seen. The adjacent ballast-pit generally has a few nests of the Coot, Waterhen, and Mallard, while in the winter large numbers of Duck—chiefly Mallard, Wigeon, Tufted, and a few Scaup and Teal. Ringed Dotterels, Stints, Skuas, and Terns have been observed. In the woods round Skellingthorpe the Turtle Dove, Stock Dove, and Wood Pigeon are common, so too are Green Woodpeckers; the Great Spotted Woodpecker is not uncommon, the Lesser Spotted very rare. Magpies and Jays, Kestrels and Sparrow Hawks may be observed—generally suspended! Stoats, Weasels, and Hedgehogs share a like fate. On the open heath between Doddington and Hartsholme, any evening, may be observed the Nightjar, Barn and Long-horned Owls, Landrails, and a few French Partridges; the Common Partridge is abundant. Most of the Titmice, Cole, Blue, Marsh, Long-tailed and Great Tits nest in the plantation. Linnets, Brown and Green, Bullfinches and Yellowhammers, Robins and Common Flycatchers have been found nesting here. Hartsholme Wood is an especially rich locality both for the zoologist and entomologist; reptiles are fairly numerous; I have obtained specimens of the Grass Snake and the Viper, the Blindworm and the Sand and Green Lizards. Fortunately the Pheasant, here, is not considered 'the roof and crown of things.' Consequently a very extensive list of visitors and residents could be made. It may be added that on the day of the excursion, one party was successful in procuring specimens of the Ten-spined Stickleback (*Gasterosteus pungitius*) and the Loach (*Cobitis barbatula*), as well as of the Three-spined Stickleback (*G. aculeatus*), in road-side drains and streams at Bracebridge, under Mr. Fieldsend's guidance.

After the general meeting the annual meeting for 1893 was held, Mr. J. Cordeaux occupying the chair. After the general business had been transacted, including the election of the Rev. A. Thornley, M.A., F.E.S., to the Secretaryship of the Entomological Section, and Mr. Alfred Fieldsend to that of the Vertebrate Section, the chair was vacated in favour of Mr. F. M. Burton, and the presidential address for 1893 was delivered by Mr. John Cordeaux.

A hearty vote of thanks to Mr. Cordeaux concluded the proceedings.—W. F. BAKER.

A CRITICAL CATALOGUE OF LINCOLNSHIRE
PLANTS:
FROM ALL KNOWN SOURCES.

REV. E. ADRIAN WOODRUFFE-PEACOCK,

*Vicar of Cadney, Brigg; Botanical Secretary of the Lincolnshire Naturalists' Union;
Curator of the Lincolnshire County Herbarium.*

FOURTH PAPER.

(First Paper, giving all explanations, Nat., March 1894, pp. 85-92.)

THE Rev. W. Fowler, of Liversedge, has kindly pointed out to me that in the introduction to the first paper of this series, I did not define a phrase which I have since used freely; and as some slight misunderstanding has arisen, I take this opportunity of explaining it to make my meaning clear for the future.

By *dying out* I imply the gradual extinction of species through changes brought about by drainage, disafforestation, and the enclosure of moors, rabbit warrens, and wild haunts, for the purpose of cultivation, and by the 'firing' of commons purposely to destroy their native vegetation, or, what is more frequent, accidentally—in a word, by the change of environment from artificial causes. See *Ranunculus Lingua* L., *Corydalis claviculata* DC., *Viola palustris* L., *Genista anglica* L., etc., in the published papers, and *Drosera anglica* Huds., etc., to appear. By the phrase *thrust out*, I shall mean the unassisted action of species on one another by changes in climate, desiccation, power of rapid reproduction, and hereditary fitness—natural as opposed to artificial selection. As, for example, the way in which the *southern types* are gradually eliminating the *northern* and *montane types* from our flora; or, as for a time, *Elodea* thrust out our less vigorous species of water plants. It is often almost impossible to define approximately where artificial selection ends and natural begins, or vice versâ. In the majority of cases known to be in operation at present—I might almost say in every case—they supplement each other's action continually, in the most obvious instances, artificial always preceding natural selection. *Elodea*, an American species, could not have acted as a disturber here, if it had not been accidentally introduced by human agency, nor would the gradual desiccation of the country have been so rapid if the forests had been left and the fens undrained. The fringe of the subject is too wide to be even outlined here, but the whole matter, I hope, will receive due treatment in the future.

I had better say here, too, that I have had no time to spare from other botanical work—*The County Herbarium, Locality Register, and Bibliography*—at the present time more important, to make that minute study of specimens that the genera *Rubus* and *Rosa* require. All the plants sent in—a meagre lot—are not even named and arranged yet. The list given here is taken from the B.R.C. notices and Mr. F. A. Lees' *Outline Flora*, with the addition of some notes on **S.** plants kindly sent me by Mr. Harry Fisher from his herbarium, which has now been added to the Nottingham Museum; and, lastly, from the specimens already in the *County Herbarium* from the Cole and Larder collections. If I have made any 'double entries,' I must plead in excuse insufficient time for study and the want of a proper critical *apparatus*—a perfect set of type specimens authoritatively named, and the latest works and articles on these difficult genera.

The whole of the Rev. W. Fowler's manuscript notes on **N.** and **S.** plants, beginning in 1856 and coming down to this season, have now been added to the *Locality Register*.

ROSACEÆ (*Continued*).

Prunus Padus L.† A planted alien, but growing freely from the bird-sown drupes in **N.**

SPIRÆA SALICIFOLIA L. Alien, and probably planted. **N.**—Hendale Woods, 1862; Mr. James Britten, *Nat.*, 1865, p. 84.

Spiræa Ulmaria L.† Native, and quite common. **N.** and **S.**

Spiræa Filipendula L.† Native. Same as last.

Spiræa tomentosa Willd. An escape. **N.**—Laughton Low Warren, 1880; Rev. W. Fowler, Herb. Brit. Mus.

Rubus Idæus L.† Native. Not rare in **N.**, and I have two records for **S.**

Rubus suberectus Anders.† Native. **N.**—Boughton Wood, 1879; Rev. W. Fowler, Herb. Brit. Mus. **S.**—Skellingthorpe, † 24-6-'56; Rev. R. E. G. Cole.

Rubus fissus Lindl. Native. **N.**—Linwood Warren, 1877; Mr. F. A. Lees, Herb. Brit. Mus.

RUBUS PPLICATUS W. & N. **N.**—Near Crowle, before 1847; Rev. J. K. Miller's *MS.* I know the neighbourhood, but not this species. The three next are all found about there certainly. It is most probable that Mr. Miller, accurate botanist though he was, made a mistake. I am confirmed in this opinion by finding in another *MS.* of his the following note on this species:—'Common about the turf moors, both Thorne and Hatfield, Yorks.' It is not in Mr. F. A. Lees' *Flora of*

West Yorks. for the district named. His description is :—
'damp bushy places, with a tendency to a montane restriction
in West Yorkshire, rare.'

Rubus affinis W. & N. Native. **N.**—Lane near Legsby Wood,
1877; Mr. F. A. Lees, who adds 'a common form.' Near
Crowle! and Eastoft! 1874. Herb. Brit. Mus.

Var. **cordifolius** W. & N. Native. **N.**—Legsby Wood, 1877;
Mr. F. A. Lees. **S.**—Stapleford Moor; Swinderby; Norton
Disney; Thurlby; all before 1892; Mr. H. Fisher, in his Herb.
and Herb. Brit. Mus.

Rubus Lindleianus Lees. Native. **S.**—Swinderby Lane, 1878;
Rev. W. Fowler; Herb. Brit. Mus. Mr. F. A. Lees' *Outline
Flora* says 'Common, **N.**'

RUBUS RHAMNIFOLIUS W. & N. Native. **N.**—Found by
Mr. F. A. Lees in 1878. See his *Outline Flora*.

Rubus thyrsoideus Wimm. Native. **S.**—Six miles South of
Lincoln on the Foss Road, 10, 1892; Mr. Harry Fisher, teste
Mr. W. M. Rogers; Fisher Herb.

Rubus rusticanus Merc. Native. **N.**—Near Boston, 1856;
P. Thompson. Common, I believe. **S.**—Bourn, 1837; Rev. J.
Dodsworth. About Grantham, 1892; Mr. Harry Fisher.

Rubus leucostachys Sm. Native. Found **N.** and **S.** Brit.
Mus. and Fisher Herbaria.

Rubus Salteri Bab. Native. **S.**—Norton Disney, 1893; Mr. H.
Fisher in his Herb.

VAR. **clavatus** Blox. Native. **N.**—Sandy Lane between Osgodby
and Middle Rasen, 1877; Mr. F. A. Lees, Herb. Brit. Mus.

Rubus carpinifolius W. & N. 'A rare form;' Mr. F. A. Lees.
N.—Found in wooded lane parallel with rail, on firwood border,
one mile and a half north of Rasen; Mr. F. A. Lees. He adds
S. in his *Outline Flora*. I do not know the authority.

Rubus oigocladus Muell. & Lefv. ? Rogers' *Rubi*, p. 45.
A native. **S.**—North Scarle, 9-'93; Mr. H. Fisher, in his
Herb., teste Revs. W. Moyle Rogers and E. F. Linton. See
J. of B., 1894, p. 22.

Rubus gratus Focke. Native. **S.**—Swinderby towards Lincoln
for several miles; North Scarle and Thorpe-on-the-Hill to Foss
Road, 1891-3; Mr. H. Fisher, in his Herb., teste Dr. Focke and
the Rev. W. Moyle Rogers. J. of B., 1894, p. 22.

Rubus Maassii Focke. Mr. F. A. Lees' *Outline Flora* says
'! common **N.** and **S.**' I have no arranged spms. yet I find.

Rubus nemoralis P. J. Muller. **S.**—Five miles south of Lincoln
on the Foss-way, not common, 1893; Mr. H. Fisher, in his

Herb.; whether this spm. is the *Maassii* Focke., or *Muenteri* Marss. form I am not in a position to say. See Bot. Exch. Club Rept., 1889, pp. 248, 252, and 253.

Rubus polyanthemus Lindeb. Native. **S.**—Stapleford and Swinderby, 1891; Mr. H. Fisher, in his Herb.

Rubus umbrosus Bab. In the B.R.C., 1877, Mr. F. A. Lees says, '*umbrosus* common'; but he misses out **N.** in his *Outline Flora*, 1892, after *R. macrophyllus* Weihe, the aggregate. **S.**—Norton Wood, 1877; Mr. F. A. Lees, Herb. Brit. Mus. Surely these last four species are only forms or varieties at most of *R. nemoralis* Muller. When will Professor Babington give us his long-promised *Revision of the British Rubi*. One student at least awaits it in anxious perplexity.

Rubus mucronatus Blox. **N.**—Nova Scotia Warren, near Osgodby; Mr. F. A. Lees. The type. Herb. Brit. Mus. B.R.C., 1877, p. 237.

RUBUS RADULA Weihe. Mr. F. A. Lees' *Outline Flora*, 1892, 'not rare.' I have no information beyond this.

Rubus Koehleri Weihe. Native. **S.**—Stapleford Moor and Swinderby, 1890; Mr. H. Fisher, in his Herb. Mr. F. A. Lees *Outline Flora*, 'aggregate frequent **N.** and **S.**'

Rubus Balfourianus Blox. Native. **N.**—Market Rasen, in a lane by railway bank a mile and a half north of 'Nova Scotia' bridge, 1879; Mr. F. A. Lees. Herb. Brit. Mus.

Rubus corylifolius Sm.† Native. **N.**—Stenigot, † 8-'92; Mr. A. R. Yeoman (F. A. L.). **S.**—Grantham, common, 1890-93; Mr. H. Fisher. Mr. F. A. Lees, 'not rare.'

Var. **conjungens** Bab.† Native. **N.**—Louth, 1893; Mr. J. Larder (F. A. L.).

Rubus cæsius L.† Native. Aggregate common **N.** and **S.**

VAR. **agrestis** Bab.† **N.**—Legbourn Wood, † 1893; Mr. J. Larder (F. A. L.).

VAR. **intermedius** Bab.† The same as last.

Rubus saxatilis L.† Native. **N.**—Broughton Wood, † 1789; Richard Gough (1892!). Gate Burton Wood, Gainsborough, 1873; Mr. F. A. Lees. Herb. Brit. Mus.

Geum urbanum L.† Native. Common **N.** and **S.**

Geum intermedium Ehrh.† Native. Common **N.** and **S.**, where the next is found. This hybrid sometimes approaches one stock, sometimes the other.

Geum rivale L.† Native. Common **N.** and **S.**

Fragaria vesca L.† Native. Common **N.** and **S.**

- Fragaria elatior** Ehrh.† Alien escapes by railroad side. From seed thrown from windows of passing carriages? **N.**—2.
- Potentilla Fragariastrum** Ehrh.† Native. Common **N.** and **S.**
- Potentilla Tormentilla** Neck.† Native. Common **N.** and **S.**
- Potentilla procumbens** Sibth.† Native. Very rare. **N.**—Wrawby Warren,† 3-8-'77; Mr. F. A. Lees. Barton-on-Humber,† 6-'93; Miss Firbank (Ar. B.). **S.**—Doddington, road-side in Whisby,† 21-8-'66; Rev. R. E. G. Cole. I have other records, but have seen no spms.
- Potentilla reptans** L.† Native. Common **N.** and **S.**
- Potentilla Anserina** L.† Native. Common **N.** and **S.**
- Potentilla argentea** L.† Native on the Neocomian strata. **N.**—Spilsby neighbourhood; four localities.
- Comarum palustre** L.† Native, but dying out. Not uncommon **N.** and **S.**
- Alchemilla arvensis** Lam.† Native. Apparently not so common **N.** and **S.** as might be expected, but often passed over no doubt.
- Alchemilla vulgaris** L.† Native. Not uncommon **N.** and **S.** in suitable situations.
- Agrimonia Eupatoria** L.† Native. Common **N.** and **S.**
- Poterium Sanguisorba** L.† Native. Fairly common **N.** and **S.**
- Poterium officinale** Hook. f.† Native. Common **N.** and **S.**
- Rosa spinosissima** L.† Native, but very rare. **N.**—Newton Cliff,† by the river Trent, 12-6-'55; Rev. R. E. G. Cole (Ar. B.). *Raithby*,† 6-'93; Mr. E. Larder (F.A.L.). I have two other records unverified by specimens.
- Rosa mollis** Sm.† Native. **N.**—3 (F.A.L.).
- Rosa tomentosa** Sm.† Native. **N.**—6. **S.**—Eagle,† 11-6-'68; Rev. R. E. G. Cole. Mr. Ar. Bennett writes on the Eagle specimens:—'Material very poor, but I believe *R. tomentosa*.'
- VAR. scabriuscula** Sm. Native. **S.**—East of Sleaford town boundary; Mr. G. Webster, B.R.C., 1882. Herb. Brit. Mus.
- Rosa rubiginosa** L.† Native. **N.**—3. **S.**—2.
- Rosa sepium** Thuill. (*R. agrestis* Savi).
- VAR. ——— ?** **S.**—From Swinderby to Thorpe-on-the-Hill, 1892. North Scarle, 1893. Both Mr. H. Fisher, and in his Herb. Teste Revs. E. F. Linton and W. Moyle Rogers. The former writes to Mr. Fisher:—'A remarkable variety—a long way from type. Very near a form which the Rev. E. S. Marshall has taken me to see near Wibley, Surrey.'
- Rosa canina** L.† Native. Aggregate common enough **N.** and **S.**

- Rosa lutetiana** Lemn. Native. **N.**—Bleasby; Mr. F. A. Lees, B.R.C., 1877. Herb. Brit. Mus. **S.**—‘Very common,’ Mr. H. Fisher.
- Rosa surculosa** Woods.† Native. **N.**—Cawthorpe, 1893; Mr. J. Larder (F.A.L.).
- Rosa sphærica** Gren.† Native. **N.**—Legbourn, 1893; Mr. J. Larder (F.A.L.).
- Rosa dumalis** Bechst.† Native. **N.**—‘The commonest form.’ Mr. F. A. Lees. **S.**—‘Very common,’ Mr. H. Fisher.
- Rosa biserrata** Mérat. Native. **N.**—Bleasby Wood, Linwood; Mr. F. A. Lees, B.R.C., 1877. Herb. Brit. Mus.
- Rosa urbica** Lemn.† Native. **N.**—‘Commoner than typical *R. lutetiana* Lemn.’ Mr. F. A. Lees. **S.**—‘Common,’ Mr. H. Fisher.
- Rosa arvatica** Baker.† Native. **S.**—Doddington, 12-6-’68; Rev. R. E. G. Cole (F.A.L.).
- Rosa tomentella** Lemn. Native. **N.**—Found by Messrs. J. Burtt Davy and F. A. Lees, 1891. See the *Outline Flora*. Herb. Brit. Mus.
- Rosa andegavensis** Bast. Native. **S.**—Swinderby, 1891; Mr. H. Fisher, and in his Herb.
- Rosa verticillacantha** Mérat. Native. **S.**—Swinderby and Norton Disney, 1891; Mr. H. Fisher, and in his Herb.
- Rosa Koscinciana** Baker† (i.e., *Rosa collina* Jacq.). Native. **N.**—Saltfleetby, 14-8-’58; Messrs. Bogg (F.A.L.).
- Rosa Reuteri** Godet (i.e., *R. glauca* Vill.). Native. **N.**—‘A common form,’ Mr. F. A. Lees, 1877. **S.**—Swinderby, 1891; Mr. H. Fisher.
- Rosa subcristata** Baker. Native. **S.**—Swinderby, 1891; Mr. H. Fisher, and in his Herb.; but he adds, ‘not typical.’
- Rosa implexa** Gren. Native. **S.**—Swinderby and Thurlby, 1891; Mr. H. Fisher, and in his Herb.; but he adds, ‘very rare.’
- Rosa coriifolia** Fr. Native. **N.**—‘Several stations,’ Mr. F. A. Lees, 1877. Herb. Brit. Mus.
- Rosa Borreri** Woods. Native. **N.**—Skegness sandhills, 7-’90; Mr. H. Fisher, ‘Not typical.’ **S.**—The Foss, near Thurlby Moor, 1891; Mr. H. Fisher, ‘Typical.’ Both in his Herb. This is the *R. inodora* Sm., of the Thompsonian *List*, where it was first recorded for the county.
- Rosa arvensis** Huds.† Native. Fairly common **N.** and **S.**

PYRUS TORMINALIS Ehrh. I have seen no specimens, but find from the late Rev. J. K. Miller’s notes it was found in northern

Nottingham fifty years ago. It is recorded as a native of Norfolk. **N.**—Hatton, 1890; Mrs. Jarvis. **S.**—Thurlby and Bourn Woods, 1838; Rev. J. Dodsworth.

PYRUS ARIA Sm. A planted or bird-sown alien. **N.**—Welton Vale; Mr. H. W. Kew, *Nat. World*, 1886, p. 21.

Pyrus Aucuparia Gært.† Not uncommon **N.** and **S.**, but of alien origin.

Pyrus hybrida L.† (i.e., *P. pinnatifida* Ehrh.). A bird-sown escape from ornamental woods and gardens. **N.**—Bottesford, 1893. There are plenty of young trees about in the woods, and the parent stocks were only planted twenty-eight years ago.

Pyrus malus L.† Native. Aggregate common **N.** and **S.**

VAR. **acerba** DC.† Common **N.** and **S.**

VAR. **mitis** Wallr.† **N.**—3. **S.**—2.

I believe *P. acerba* is constantly crossed by the bees with garden apples—*P. hortensis*—the variety *mitis* being the result. The specimens found in or very near our villages being always this variety as far as my experience goes. But *P. acerba* growing in the open is also a variable variety to a less extent. I have found the garden apple, *P. hortensis*, **N.**—Hibaldstow, on the railway embankment, far enough away from any garden, just where seed might have lodged cast from a passing train.

Cratægus Oxyacantha L.† Native, but generally planted, as it is not a 'free seeder'; but I find it is self-sown more frequently than is generally supposed.

VAR. **oxyacanthoides** Thuill.† Native and rare. **N.**—6.† **S.**—2.† Earliest flowering variety.

VAR. **monogyna** Jacq.† Common **N.** and **S.**

There are plenty of intermediate forms with varying characteristics, two-styled specimens of which 'may be found in bloom as late as any.'—(F.A.L.)

SAXIFRAGEÆ.

Saxifraga tridactylites L.† Native. **N.**—3.† **S.**—3.†

Saxifraga granulata L.† Native. Common **N.** and **S.**

Chrysosplenium oppositifolium L.† Native, but rare. **N.**—3.† **S.**—2.

Chrysosplenium alternifolium L.† Native, but very rare. **N.**—2.† **S.**—It is reported from the Grantham neighbourhood, but I have seen no specimen.

Parnassia palustris L.† Native, but dying out and growing rare. **N.**—7.† **S.**—3. It could not be found in all these places now, I fear.

Ribes Grossularia L.† A bird-sown garden escape. Common N. and S.

Ribes alpinum L.† Planted, I fear. N.—Barrow Wood, 31-3-'93; Miss E. M. Uppleby (F.A.L.). Along with *Ruscus*, certainly an alien.

Ribes sativum Reichb. Another bird-sown garden escape. N.—6 S.—1.

Ribes nigrum L. Like the last. Found in willow trees and hedges. N.—3. S.—1.

CRASSULACEÆ.

Cotyledon Umbilicus L.† N.—‘It grows on the church walls of Tattershall in Lincolnshire.’—Blair’s *Pharmaco-Botanologia*, 1727, p. 235. It is plentiful on Tattershall Castle still, a living memorial of some long since departed lover of our native plants.

SEDUM RHODIOLA DC. An escape? Rowland Plantation, Appleby Rev. J. E. Cross.

Sedum Telephium L. ‘Apparently native.’—Rev. W. Fowler. N.—Broughton Woods; B.R.C., 1875, Herb. Brit. Mus. Louth, 1894; Rev. W. W. Mason. S.—Elsey Wood, Bourn, 1838; Rev. J. Dodsworth.

SEDUM ALBUM L. Mr. Jas. Britten’s *List in White’s Lincolnshire*, 1872. No information.

Sedum anglicum Huds.† An escape. N.—Mablethorpe, 1883; Miss Mackinder and Miss Rosa J. Owston, 8-'93.

Sedum acre L. Native. Not uncommon on sandy warrens, and as an escape N. and S.

Sedum reflexum L.† Alien escape. N.—2. S.—Swineshead, 1838; Rev. J. Dodsworth.

Sedum rupestre Huds. An escape. N.—Mablethorpe; Mr. J. Burtt Davy. *Nat.*, 1891, p. 66. Herb. Brit. Mus.

Sempervivum tectorum L.† A planted and wind-sown alien. Not very uncommon N. and S.

DROSERACEÆ.

Drosera rotundifolia L.† Native, but dying out. N.—9. S.—2.

Drosera anglica Huds.† Like the last. N.—4. Whether it is still with us or extinct I cannot say. It has not been recorded for S.

Drosera intermedia Hayne.† Like the last two, but still with us. N.—9. No S. record.

BOTANICAL RAMBLES ABOUT ARNSIDE.

H. T. SOPPITT.

Bradford.

It would not be easy to find a spot in the north of England more delightful to the naturalist than the neighbourhood of Grange-over-Sands, in Morecambe Bay. The district simply teems with life, and whichever department of natural history one is interested in, surely there is abundance here to satisfy him. At all seasons of the year the district is interesting, and for a holiday a more pleasing place could scarcely be desired. In the early part of July, Messrs. J. Farrah, A. H. Pawson, W. H. Stansfield, and the writer spent a short but pleasant holiday together in that charming locality, and devoted some attention to the flora of the neighbourhood. A brief account of our wanderings may, perhaps, interest the readers of 'The Naturalist.'

Arnside was selected as 'headquarters,' and it proved a capital centre to work from. During our rambles 476 species of plants, including 16 ferns, came under observation, and on no occasion did we wander, or 'slink'—as one of the party persisted in expressing it—more than seven miles from headquarters. Of course a great variety of birds, insects, and other objects were continually coming under notice, but at present it is not proposed to do more than refer to a few of the more interesting plants.

A very enjoyable ramble was to Humphrey's Head. Alighting at Kent's Bank Station, some little attention was given to the great variety of shrubs which here flourish to perfection, after which, we kept to the line for a short distance. On the railway embankment were *Geranium columbinum*, *Hippocrepis comosa*, and *Reseda luteola*, and about the limestone rocks on the shore *Geranium sanguineum* was making a splendid show. Here also were *Verbascum thapsus*, *Trifolium striatum*, *Centaurea scabiosa*, *Scabiosa columbaria*, and *Carduus pycnocephalus*.

Having crossed the sands we proceeded through a thickly-set plantation (hazel chiefly), where several Boleti were making an appearance, and duly arrived at the top of the headland. Here a magnificent prospect is afforded, and for several hours our attention was given to plant collecting. The following are among those that were met with:—*Helianthemum canum*, *Atropa belladonna*, *Spiræa filipendula*, *Veronica hybrida*, *Pyrus rupicola*, *Sedum telephium*, *Galium sylvestre*, *Leontodon hirtus*, *Asperula cynanchica*, *Lactuca muralis*, and *Crithmum maritimum*. In the marshes on the north

side *Ænanthe lachenalii* is not uncommon, with *Spergularia media*, *Juncus maritima*, *Carex distans*, *Scirpus pauciflorus*, and *Samolus valerandi*, while in drier ground close at hand were *Glaucium luteum*, *Malva moschata*, and *Triticum acutum*. Here also a solitary example of *Plantago coronopus* was noted, the only specimen seen in the course of our rambles.

Our course now lay towards Alithwaite, and on the way *Hypericum androsæmum* was observed in the hedge-rows, and from a small pond *Potamogeton pusillus* and *Ranunculus circinatus* were collected; while in the ditches *Lythrum salicaria* was making a fine show with its red-purple blossoms, and the golden flowers of *Genista tinctoria* were abundant in the fields. From Alithwaite our route lay over the fells to Grange, but beyond *Allium scorodoprasum* and *Lithospermum officinale*—which were fairly common on a road-bank—nothing special was met with. We were amply repaid, however, by the great assortment of flowering shrubs which flourish in the gardens about Grange. Among these may be mentioned the Mulberry (*Morus*) and the Strawberry tree (*Arbutus*). From Grange we proceeded to our destination by way of the shore. Here *Atriplex portulacoides* grows in great profusion, with *A. babingtonii*, *Schlerochloa maritima*, *Aster tripolium*, *Armeria maritima*, and *Lepturus filiformis*.

Another interesting ramble was across the viaduct to Meathop Fell, thence to Meathop, over a portion of the Witherslack Moss to the 'Derby Arms,' the well-known haunt of many entomologists, and not half a bad place either. Many uncommon plants occur on the masonry of the viaduct and in proximity to the railway, such as *Calamintha acinos*, *Sagina nodosa*, *Poa compressa*, and *Linaria minor*. About Meathop Fell *Inula conyza*, *Hippocrepis comosa*, *Hypericum montanum*, *Verbascum thapsus*, *Atropa belladonna*, *Kæleria cristata*, *Sesleria cærulea*, *Epipactis latifolia*, and *Rhamnus frangula* were noted, while in marshy fields the blossom of *Orchis latifolia* were in great variety, and in the same situation *Erythrea pulchella* and *Juncus compressus* were not uncommon. The most interesting plants on Witherslack Moss were *Drosera intermedia*, *Vaccinium oxycoccus*, *Narthecium ossifragum*, and *Andromeda polifolia*, and the leaves of the latter were abundantly invaded by *Rhytisma andromedæ*—a parasitic fungus.

Returning by way of Ulpha Moss were found *Potentilla comarum*, *Anagallis tenella*, and *Scutellaria minor*, but a heavy thunderstorm put a damper on our investigations, and we decided to revisit the locality later on, which we did. On this occasion we kept to the north bank of the Kent until Foulshaw was reached, and on the way noted *Ammophela arundinacea*, *Elymus arenarius*, *Carduus*

crispus, *Gnaphalium sylvaticum*, and *Asplenium adiantum-nigrum*. It was our intention to cross Foulshaw Moss and spend the afternoon on Whitbarrow, but we unfortunately came in contact with the keepers, who rather upset our arrangements, and kindly showed us the nearest way to the high-road. We were glad, however, to find *Sedum anglicum*, which was in profusion on the Silurian rocks which here crop up, and on the road-side were *Thalictrum flavum*, *Aquilegia vulgaris*, and *Salix pentandra*. We shortly found ourselves once again at the 'Derby,' and after a halt devoted the afternoon to Holywell Lane, a magnificent hunting-ground, which lies away from the high-road, and runs towards Witherslack village. In this locality we met with *Melica nutans*, *Geranium sylvaticum*, *Cynoglossum officinale*, *Arenaria verna*, *Asplenium ceterach*, and other interesting objects.

The following day was devoted to the south bank of the Kent and to the shore about Arnside. Among the plants collected were *Apium graveolens*, *Scirpus maritimus*, *Hippuris vulgaris*, *Heleocharis uniglumis*, *Scirpus rufus*, *Bupleurum rotundifolium* (casual), *Potentilla verna*, *Carex paniculata*, *Veronica hybrida*, and *Rosa spinosissima*. But sufficient has been enumerated to give a rough idea of the character of a glorious and prolific locality.

NOTES AND NEWS.

Among the Fellows of the Entomological Society elected on the 7th February last were Mr. Walter F. Baker, of Leeds and Gainsborough, and Prof. L. C. Miall, F.R.S., of the Yorkshire College, Leeds.

There is hardly a Society which seems to display greater activity than the Manchester Geographical Society, to judge from the multiplicity of meetings, lectures, and excursions, besides other privileges, that they provide for their members.

The Halifax Scientific Society, of which we are pleased to see so well-known a naturalist as Mr. Wm. Cash, F.G.S., is president, has sent us its syllabus for the half year now ending. We note that one feature is debates on problems of scientific interest.

This year's List of the Linnean Society of London includes 6 Fellows resident in Cheshire, 2 in Cumberland, 5 in Durham, 29 in Lancashire (Liverpool claiming 11 and Manchester only 8), 5 in Lincolnshire, 5 in Northumberland, 3 in Westmorland, and 26 in Yorkshire (7 in Leeds); while there are apparently none at all in Derbyshire and Nottinghamshire.

At the June meeting of the Linnean Society, Mr. W. Carruthers exhibited a series of photographs of the celebrated Cowthorpe Oak in Yorkshire, taken at long intervals, commencing with a reproduction of Dr. Hunter's engraving of 1776, and made remarks upon the rate of growth and decay, and probable duration of life in this tree.

‘THE FLORA OF A POTHOLE.’

C. H. B. WOODD, M.A.,

Oughtershaw Hall, Langstrothdale, Yorkshire.

FEW spots could supply more striking lessons in plant distribution than the little tract of moorland lying to the northward of Oughtershaw Tarn, on the ridge which separates Langstrothdale on the west from the head of Raydale on the east. We are here on one of those flattish mountain tops so characteristic of the Craven district, scattered here and there with the dark grey weathered blocks of coarse Millstone Grit, in the crevices of which grows *Nephrodium dilatatum*. However, it is not the Grit but the Limestone which has led to the special feature of the spot in question; there appears to have been a line of weakness running roughly north and south for several hundreds of yards where the solvent powers of the peaty waters have exercised a special sway, burrowing out underground hollows in the limestone or gradually enlarging fissures at the surface into ‘swallow holes,’ or the more dignified ‘potholes.’ Two or three of these latter are from some 15 feet deep, with rocky sides, or *one* side rocky where the overflow from the neighbouring tarn trickles down and disappears in the subterranean fissures. It is these which present us with a profusion of plant life, a truly *insular* flora surrounded by a sea of moorland. The latter of uniform soil, uniform elevation (some 1,800 feet above the sea-level), and uniform exposure to the stiff prevailing west wind, is clothed with a vegetation as poor in its number of species as it is rich in its wealth of individuals. Ling and Bell-heather, Knoutberry, Bilberry and Cowberry, the little white Rock Bedstraw, the Daisy and the Tormentil—the montane variety of the yellow Cow-wheat—grasses and sedges, not forgetting the Hare’s-foot Cotton Grass conspicuous against the peat bogs—these almost exhaust the list of the moorland’s plants. But let us turn to one of the potholes. The Ling and most of its companions come no further than the brink: they at once give place to quite a different flora, amongst which we note:—

Rumex acetosa, growing 300 ft. above its usual limit.

Spiræa ulmaria, 300 ft. above its usual limit.

Geranium robertianum.

Veronica chamædrys.

Stellaria holostea.

Epilobium angustifolium. **E. montanum**.

Geum rivale, 200 ft. above its usual limit.

Chrysosplenium oppositifolium. *C. alternifolium*.

Cardamine hirsuta.

Saxifraga hypnoides.

Salix aurita, 300 ft. above its usual limit.

Acer pseudo-platanus, 550 ft. above usual limit. The tree extends itself laterally from the side of the pothole, and is thus sheltered from the wind.

Blechnum boreale.

Nephrodium dilatatum.

Athyrium filix-fœmina, 450 ft. above its usual limit.

Nephrodium filix-mas.

Asplenium viride.

Cystopteris fragilis.

Marchantia.

The next pothole which we visit in, addition to many, but by no means all, of the above plants, contains :—

Angelica sylvestris, 450 ft. above its usual limit.

Geranium sylvaticum, 600 ft. above its usual limit.

Alchemilla vulgaris.

Arabis hirsuta, 300 ft. above its usual limit.

Lychnis diurna, 550 ft. above its usual limit.

Crepis paludosa, 300 ft. above its usual limit.

A third pothole adds :—

Thymus serpyllum.

Oxalis acetosa.

Fragaria vesca, 300 ft. above its usual limit.

Viola sylvatica.

Cnicus arvensis.

Asplenium ruta-muraria.

Aspidium aculeatum.

While succeeding potholes further supply :—

Ranunculus repens, 300 ft. above its usual limit.

Mercurialis perennis, 900 ft. above its usual limit, as assigned to it in the 'Flora of West Yorkshire' (which see). It is abundant in Oughtershaw wood at 1,200 ft.

Veronica officinalis.

Cerastium triviale.

Stellaria uliginosa.

Urtica dioica, 300 ft. above its usual limit.

Campanula rotundifolia.

Hieracium pilosella.

Polypodium vulgare. **P. dryopteris.**

Juncus communis, besides other rushes and grasses.

Hypnum, Sphagnum, and other mosses, and a species of *Odontia*.

Bellis perennis and *Potentilla tormentilla* and *Galium saxatile* intrude themselves into the potholes; while *Viola lutea* affects the grassy hollows which lie around the potholes.

It is interesting to note the number of plants which here have found sheltered nooks to suit them, far above their usual limit of elevation, and far above a host of their competitors who have not as yet been enabled by wind or other agency to transmit their seeds thither, and gain a footing. The Sycamore tree looks quite out of place; the nearest of its fellows are far away down in the valley. The Fox-glove, too, I have found up here, 550 feet above its normal limit. But enough.

NOTES AND NEWS.

Vegetable biologists will be much interested in a paper by Mr. Thomas Hick, B.A., B.Sc., A.L.S., of the Owens College, Manchester, giving 'Modern Views of the Plant Cell,' a reprint of which, from the Manchester Microscopical Society's Transactions for 1893, now lies before us.

We have received from the Scarborough and Whitby Railway Company a copy of their 'Official Guide to the Scarborough and Whitby Railway' (First Edition, 1894), a 44 page pamphlet, with map and full-page illustrations. Natural History has its place in the book, and there are some interesting notes on the birds and a few references to the plants and the geology of the district traversed by the line.

We have before us, with the title of 'Woodside, Burnside, Hillside, and Marsh,' another of the popularly written little books in which Mr. J. W. Tutt, F.E.S., treats of outdoor natural history with a light touch and in plain and simple, yet ornate language. Accuracy is given to the sketches by due mention of the actual localities treated of, three of them being of 'historical' interest in being connected with some of the best-known characters portrayed in Dickens' inimitable works, while the fourth (Burnside) is a Scottish Highland locality. Swan Sonnenschein & Co. are the publishers, and to them and the author are due the best thanks of all who desire to see natural history essays done 'true to nature.'

The Seventeenth Annual Report of the Lancashire and Cheshire Entomological Society, which has just reached us, shows that the science, and the society, flourishes in Liverpool. Mr. S. J. Capper still continues to be the President, and Mr. F. N. Pierce to occupy the onerous post of honorary secretary. 'The New Entomology' is the subject of the annual address, delivered this time by the Vice-President, who is not named, though we suppose it is our old and well-tried friend Dr. Ellis. A paper on 'Vegetable Galls and Gall-Insects,' by so good an authority as Mr. S. L. Mosley, is also included, as well as lists of members and of the library. May the Society long flourish!

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CRUSTACEA, 1884 to 1892.

THE present instalment has been compiled and edited by
WM. DENISON ROEBUCK, F.L.S.

It includes the record of much important work done in connection with the exploration of Liverpool Bay by the Liverpool Biological Society and represents a most substantial advance upon our previous state of knowledge of the Crustacea of that portion of our area. Would that an equal amount of work of a similarly sound character was done on our eastern coasts. So far, however, there is scarcely a worker on the whole line of coast from Tweed to Wash; and there is no sign from the Marine Laboratory, founded some years ago at Grimsby, that its existence is doing anything for the working out of the marine fauna of the neighbouring seas and coasts; while the Marine Zoology Committee of the Yorkshire Naturalists' Union has so far been unsuccessful in inducing members to work out the coast of that county.

The work of the Liverpool Naturalists is, however, worthy of all the praise that can be given to them; and the only criticism that need be made is as to the perhaps unnecessary repetition of the same paper in two or sometimes three different publications, and usually with that irritating alteration of pagination which is so tiresome to bibliographers and others who have to refer to them. Would it not be sufficient to have one medium for publication, and thereby secure also the collateral advantage of setting funds free for the heavy expenses of the actual investigations?

ANON. [signed 'E. C. B.']. Furness.

'Barnacles' [excerpt from Gerarde's Herball, 1597, p. 1391, of the generation of geese from barnacles at a 'small Ilande in Lancashire, called the Pile of Foulders']. Westmorland Note Book, part 1, March 1888, p. 21.

ANON. [signed 'R. T. L.']. Cumberland.

'Barnacles' [in connection with the generation of geese from them; and derivation therefrom of name of a Cumberland village, Rotington (from Rotgeese)]. Westmorland Note Book, part 1, March 1888, p. 22.

ANON. [not signed]. York S.E.

Abnormal Size and Weight of Lobster [(*Homarus vulgaris*): dimensions given of one caught at Whitby, which weighed when alive 9 lbs. 6 oz.]. Zool., Sep. 1890, p. 359.

H. COOPER ABBS. York N.W.

[Presidential] Address to . . . the Tyneside Naturalists' Field Club

. . . May 24th, 1886 [noting *Astacus fluviatilis* in considerable numbers in the Ure and a portion of one in a little stream on Thornton Rust Moor, 26 June, 1885]. Nat. Hist. Trans. Northumberland, Durham, and Newcastle, vol. viii., part 3, 1889, p. 335.

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List of . . . Donations to the Museum . . . of the Natural History Society [of Newcastle-on-Tyne], from June, 1877, to August, 1887 [1879, Barnacles encrusting a candle, found at Newbiggin (Miss Leila Allhusen)]. Nat. Hist. Trans. Northumberland, Durham and Newcastle, vol. ix., part 2 (1888), p. 286.
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Westmorland.
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Rarities from the Yorkshire Coast, [including several individuals of *Hyas araneus* captured at Redcar, August 4th, 1883]. Notes from my Aquarium, 1884, p. 8.
- GEORGE BROOK. York N.E.
On the Rate of Development of the Common Shore-Crab (*Carcinus menas*) [from observations made on specimens collected in the Megalopa stage at Redcar, August 25th, 1883]. Ann. & Mag. N. H., Sep. 1884, pp. 202-207, and plate vii.
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Durham etc., Natural History Society [notice of the Transactions; and reference to *Alcippe lampas* discovered on the Northumberland coast by Mr. Hancock]. Sci. Goss., July 1887, p. 164.
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Rambles during the Year 1887.—Southport [7th May; *Pagurus bernhardus*, *Carcinus menas*, and *Caprella linearis* (Spectre Shrimp) noted]. Ann. Rep. Manch. Microsc. Soc. for 1887 (pub. 1888), pp. 62-63.
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Zoological Notes at Port St. Mary, Isle of Man [with complete lists of captures; the Crustacea were *Phonilus spinosus*, *Nymphon gracile*, *Idotea marina*, *I. linearis*, *Talitrus locusta*, *Pandalus annulicornis*, *Crangon vulgaris*, *Steiracrangon allmanni*, *Homarus vulgaris*, *Galathea dispersa?* (dozens), *Pagurus bernhardus*, *Carcinus menas*, *Cancer pagurus*, *Hyas coarctatus* (one), and *Stenorhynchus rostratus*]. Journ. of Microsc., N. S., No. 10, April 1890, iii., 126-128.
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Atylus swammerdamii, *Pseudocalanus armatus*, *Ectinosoma atlanticum*, *Zaus*
spinatus, *Laophonte lamellifera*, *Dactylopus tenuiremis*, *D. tishoides*, *Cyclopina*
gracilis, *Bradya typica*, *Euterpe gracilis*, *Peltidium depressum*, *Iphinoe*
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cularia, *Podon intermedius* (not before recorded for British seas), *Monstrilla*
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Cheviotland, Northumberland, Durham, Isle of Man, and Dogger Bank.
- EDWARD LOVETT.
Notes and Observations on British Stalk-Eyed Crustacea [reproducing Mennell's notes on *Nephrops norvegicus* off the coast of Northumberland]. Zool., July 1885, pp. 253-255. [*Crangon fasciatus* noted for the Farne Islands in 1863, and for the Northumberland coast; *C. spinosus* from the Northumberland and Durham coasts, and also specially recorded from off Tynemouth and Berwick, at which latter place one 2½ inches long is said to have been taken; *C. bispinosus*, Durham and Northumberland coasts, and two specimens dredged in 40 fathoms, 40 to 50 miles off Tynemouth]. Zool., April 1886, pp. 170-176. [*Hippolyte spinus* Sow., Isle of Man (deep water), *H. securifrons*, Berwick and the Dogger Bank]. Zool., April 1887, pp. 149 and 150.
- R. T. MANSON. Durham.
Zig-Zag Ramblings by a Naturalist [round Darlington; *Astacus fluviatilis* and *Gammarus pulex* in the Cocker Beck]. Small 8vo., Darlington, 1884, pp. 105-6 and 138.
- F. P. MARRAT. Isle of Man, Cheshire, Lanc. S.
Notes on the Cirripedia of the L[iverpool].M.B.C. District [giving detailed notes on nine species]. First Rep. on Fauna of Liverpool Bay, 1886, pp. 209-211.
- THOMAS H. NELSON. York N.E.
[Euthemisto compressa in the sea off Redcar; new to British list]. Nat., May 1892, p. 144.
- R. NEWSTEAD. Cheshire.
Insects, &c., taken in the Nests of British Vespidae [in Cheshire and Denbighshire; *Porcellio scaber* Latr., turns up in almost every nest]. Ent. Mo. Mag., Feb. 1891, p. 40.
- J. I. NEWTON. Lanc. S.
Rambles during the Year 1887.—Ashton-under-Lyne [30th July; *Argulus foliaceus* noted in pond near Ashton Moss]. Ann. Rep. Manch. Microsc. Soc. for 1887, pub. 1888, pp. 66-7.

A. M. NORMAN. Durham, Northumberland S., Isle of Man, Yorkshire.

On a Crangon, some Schizopoda, and Cumacea new to or rare in the British Seas [including *Leptomysis lingvura* G. O. Sars, found by writer 26 years ago in great abundance at Howden, County Durham, and shortly afterwards at Seaham Harbour, but remained undetermined till now; *Mysis inermis* Rathke, Cullercoats, Northumberland (A.M.N.); *M. lamorne* Couch, Seaham, co. Durham (G. Hodge); *Siriella crassipes* G. O. Sars, Cullercoats, 25 years ago (A.M.N.); *S. armata* (M.-Edw.), Castleton, Isle of Man (G. S. Brady); *Hemilamprops rosea* Norm., 50 to 100 m. E. of Tynemouth (A.M.N.); and *Pseudocuma cercaria* (Van Ben.), Whitley (A.M.N.), Seaton Carew, co. Durham (A.M.N.), and Sunderland (G. S. Brady)]. Ann. and Mag. Nat. Hist., Feb. 1887, pp. 89-103.

'Liverpool Bay,' Coasts of Durham and

A. M. NORMAN.

Northumberland.

Notes on British Amphipoda.—I. Megaluropus, n.g., and some Ediceridæ [*Megaluropus agilis* n. sp., Liverpool Bay (A. O. Walker); *Monoculodes carinatus* Bate, Northumberland Coast (A.M.N.); *Halimedes parvimanus*, Bate & Westw., off Durham Coast, 1862 (A.M.N.) noted]. Ann. and Mag. N. H., June 1889, pp. 445-460, and plates 18 to 20.

Cheviotland, Durham, Northumberland S., York S.E.,

A. M. NORMAN.

Linc. N., 'Liverpool Bay.'

Notes on British Amphipoda.—II. Families Leucothoidæ, Pardaliscidæ, and Gammaridæ (Marine) [*Eusirus longipes* A. Boeck, off Berwick (A.M.N.); *Amathilla sabini* (Leach), Durham and Northumberland coasts, the Humber (A.M.N.), and Liverpool Bay (A. O. Walker); *Mera othonis* (H. Milne-Edw.), Northumberland and Durham coasts (A.M.N.), and Liverpool Bay (G. H. Fowler); *Cheirocratus assimilis* (Lilljeborg), off Holy Island, Northumberland Coast, 1864 (A.M.N.); *C. sundevalli* (Rathke), off Holy Island (A.M.N.); *Melita obtusata* (Mont.), Northumberland (Mus. Norm.), and Liverpool Bay (G. H. Fowler); *M. dentata* (Kröyer), three from fishing boats, Cullercoats (A.M.N.); and *Gammarus campylops* Leach, Bamborough (A.M.N.)]. Ann. and Mag. N. H., Aug. 1889, pp. 113-141, and plates 10-12.

A. MERLE NORMAN.

York N.E.

Rare Crustacea on the Yorkshire Coast [at Redcar, found by T. H. Nelson; *Euthemisto compressa* (Goës) in abundance; *Lepidactylis arenaria* (Slabber) = *Sulcator arenarius* B. & W.; *Thysanoessa longicaudata* (Kröyer); and *Nematoscelis megalops* G. O. Sars]. Nat., June 1892, pp. 175-176.

A. M. NORMAN.

York N.E.

British Schizopoda of the Families Lophogastridæ and Euphausiidæ [with records of *Thysanoessa longicaudata* (Kröyer), *Nematoscelis megalops* G. O. Sars, and *Euthemisto compressa* Goës, at Redcar, April 1892 (T. H. Nelson)]. Ann. and Mag. Nat. Hist., June 1892, pp. 463 and 464.

Isle of Man, Northumberland S., York N.E., Durham,

A. M. NORMAN.

Lanc. S., and 'Liverpool Bay.'

On British Mysidæ, a Family of Crustacea Schizopoda [including the following north-country records:—*Cynthilia norvegica* (G. O. Sars), Port Erin, Isle of Man (A. Walker); *C. jaitensis* (Czern.), Cullercoats, Northumberland (A. M. N.); *C. armata* (Milne-Edw.), Castleton, Isle of Man! (G. S. Brady); *Gastrosaccus spinifer* (Goës), Whitby (Stebbing); and *Mysidopsis didelphys* (Norman), 40 miles off Tynemouth, Northumberland (A.M.N.)]. Ann. and Mag. Nat. Hist., Aug. 1892, pp. 143-166. [*Hemimysis lamorne* (Couch), Seaham, co. Durham (G. Hodge), *Macromysis inermis* (Rathke), Cullercoats, Northumberland (A.M.N.), *Schistomysis spiritus* Norm., Blackhall Rocks, co. Durham, tide-marks (A.M.N.), *S. ornata* (G. O. Sars), off Seaham on the Durham coast (A.M.N.), and Liverpool Bay (A. O. Walker); and *Neomysis vulgaris* (J. V. Thompson), River Alt, with a detailed account of malformations (sewage-produced) found there]. Ann. and Mag. Nat. Hist., Sept. 1892, pp. 242-263, and plates 9-10.

GEORGE ROBERTS.

Yorkshire.

Topography and Natural History of Lofthouse and its Neighbourhood [etc.]. Vol. II. Leeds: printed for the author, 1885 [8vo, pp. viii. + 258: reference to Pill millepedes at pp. 27 and 183].

Durham, Isle of Man, York, S.E. or N.E., Northumberland S.,

DAVID ROBERTSON.

Cheviotland, Cumberland, Cheshire, Lanc. S.

A Contribution towards a Catalogue of the Amphipoda and Isopoda of the Firth of Clyde [including records for Northumberland of *Hyale lubbockiana* Bate, *Stenothoe marina* Bate, *Lysianassa costa* Edwards, *Moniculodes stimpsoni* Bate, *Atylus gibbosus* Bate, *Melita alderi* Bate, *Amathilla sabini*, *Amphithoe podoceroïdes* Rathke, *Cerapus abditus* Templ., *C. difformis* Milne Edw., *Podoceroopsis rimapalma* Bate, *P. excavata* Bate, *P. undata* Bate, *Caprella hystrix* Kroyer, *C. acanthifera* Leach, *Eurydice pulchra* Leach, *Idotea emarginata* Fab., and *Grayia imbricata* Bate; for Seaham of *Munna kröyeri* Goods.; for Cullercoats of *Amphithoe rubricata* Mont., *Protella phasma* Mont., *Caprella linearis* L., *Munna kroyeri* Goods., *Arcturus longicornis* Sow. and *Metope alderii* Bate; for Cumberland of *Sulcator arenarius* Bate; for Isle of Man of *Protella phasma* Mont., and *Anceus maxillaris* Mont; for the Mersey of *Amathilla sabini* Leach, and *Gammarus marinus* Leach; for the Yorkshire coast of *Cirolana spinipes* Bate & Westw.; for Berwick of *Corophium grossipes* L., *Tanais vittatus* Rathke, *Jera albifrons* Mont., *Janira maculosa* Leach, and *Spheroma rugicauda* Leach; and for Durham coast of *Proto goodsirii* Bate, *Aega bicarinata* Leach, *Eurydice pulchra* Leach, *Janira maculosa* Leach, *Idotea emarginata* Fab., and *I. linearis* Penn.]. Trans. N.H.S. Glasgow, New Series, vol. 2, part 1, 1886-7, pub. 1888, pp. 9-99.

T. B. ROSSETER.

York N.W.

On the Male Generative Organs of Two Species of Cypris: *Cypris cinerea* and *Cypris minuta* [and quoting from Brady's 'Recent British Ostracoda' (Linn. Trans., xxvi., 374) that he (Brady) only found *C. cinerea* in one locality, in a pool on the summit of Mickel Fell, Yorkshire, at an elevation of 2,000 feet]. Journ. of Micros. and Nat. Sci., Oct. 1888, p. 231.

ARTHUR ROWNTREE.

York N.E.

Great Massacre of Shrimps [(*Crangon vulgaris*) at Scarborough, Feb. 12th, 1887]. N.H.J., March 15th, 1887, p. 39.

B. S. ROWNTREE.

York S.E.

York, Bootham [*Astacus fluviatilis* in Millington Beck near Pocklington, Sept. 19th, 1887]. N.H.J., Oct. 15th, 1887, p. 163.

THOMAS SCOTT.

Durham.

Natural History Notes from Tarbert [with a reference to Dr. Brady having noticed *Peltidium depressum* Baird 'on one occasion amongst coarse sand from a depth of four fathoms at Sunderland']. Trans. N.H.S. Glasg., 1885-6, New Series, vol. i., p. 376.

THOMAS SCOTT and ANDREW SCOTT.

Lanc. W.

On some New or Rare Crustacea from the Firth of Forth [including notice of *Lichomolgus agilis* sp. nov., from Morecambe Bay]. Ann. and Mag. Nat. Hist., Sept. 1892, p. 203.

P. L. SIMMONDS.

Westmorland, Lanc. W., Linc. N. & S.

The Animal Food Resources of Different Nations, with mention of some of the Special Dainties of various people derived from the Animal Kingdom. . . [Statistics of the Shrimp (*Crangon vulgaris*) fishery in Morecambe Bay at p. 390; at p. 391 it is stated that the Boston fishermen recognise three kinds of shrimps, viz., Sea-Shrimps (*Pandanus annulicornis*) which come in June, Land-Shrimps (*Crangon vulgaris*) which are always present, and Prawns (*Palaemon serratus*)]. . . London: E. & F. N. Spon. . . 1885. [8vo., cloth, pp. 461].

- EDWARD H. SMART. York N.E.
Galathea strigosa on the Yorkshire Coast [at Runswick and in some numbers at Scarborough, where it is called the 'Squat Lobster]. Nat., Nov. 1886, p. 339.
- GEORGE SWAINSON. Lanc. W.
Saunterings along the Coast. I.—Ribble Estuary [between Lytham and St. Anne's, in March; Acorn Barnacles or *Balani*, and *Cetochilus* or 'Whale-food' noted]. Wesl. Nat., Sep. 1888, pp. 204 and 206. **II.—Blackpool** [the Sand-hopper (*Talitrus locusta*) and *Eurydice pulchra* noted]. Wesl. Nat., Oct. 1888, p. 232.
- GEO. SWAINSON. Isle of Man.
On the Dalby Rocks [Isle of Man; list of captures in Aug. 1888; *Cetochilus septentrionalis*, *Nebalia bipes*, *Temora finmarchica*, *Anomalocera patersonii*, *Caprella lobata*, *Eurydice pulchra*, *Talitrus locusta*, *Mysis oculata*, *Palaemon serratus*, *Crangon vulgaris*, *Pagurus bernhardus*, *Cancer pagurus*, *Maia squinado*, *Carcinus menas*, *Homarus vulgaris*, *Balanus porcatus*, *B. balanoides*, and *Nymphon gracile (rubrum?)* enumerated]. Wesl. Nat., Nov. 1888, p. 267.
- G. SWAINSON. Isle of Man.
Results of Dredging Excursion to Dalby, Aug. 1888 [enumerated; of Entomostraca, 4 species of *Cetochilus*, *Nebalia*, *Temora*, and *Anomalocera*; of Malacostraca, 11 species of *Caprella*, *Eurydice*, *Talitrus*, *Mysis*, *Palaemon*, *Crangon*, *Pagurus*, *Cancer*, *Maia*, *Carcinus*, and *Homarus*; of Cirripeds, two species of *Balanus*; and one Pycnogonid, *Nymphon gracile (rubrum?)*]. Vannin Lioar, No. 1, Jan. 1889, p. 14.
- M. L. SYKES. Lanc. S.
Rambles during the Year 1887.—Worsley [Aug. 27th, *Daphnia*, *Cyclops*, *Cypris*, and *Canthocamptus* noted in ponds]. Ann. Rep. Manch. Microsc. Soc. for 1887 (pub. 1888), p. 68.
- ISAAC C. THOMPSON. Isle of Man, Cheshire.
Report on the Copepoda of the L[iverpool].M.B.C. District [giving brief introductory remarks and detailed notes on 19 species, of which 13 are new to the district, 3 to Britain and one possibly to science]. First Rep. on Fauna of Liverpool Bay, 1886, pp. 201-208, and plate 4.
- ISAAC C. THOMPSON. Lanc. S., Isle of Man.
On some Copepoda, new to Britain, found in Liverpool Bay [including *Eurytemora hirundo* Giesb. found with *Temora longicornis* in Crosby Channel, and between Formby and Southport, and *Pontella wollastoni* Lubb., taken about halfway between Liverpool and Isle of Man, 28th Aug. 1886]. Proc. Liverp. Biol. Soc., vol. 1, 1886-87, publ. 1887, pp. 34-39, and plates 4-6.
- ISAAC C. THOMPSON. Lanc. S.
On some Copepoda new to Britain found in Liverpool Bay [*Eurytemora hirundo*, Crosby Channel; *Dias discaudatus*, Liverpool Bay; and *Pontella wollastoni*, Liverpool Bay]. 57th Rep. Brit. Ass., Manchester, 1887 (pub. 1888) p. 734.
- L. C. THOMPSON. Cumberland.
Liverpool Microscopical Society [various Cladocera from Cumberland lakes, including *Leptodora hyalina* from Grasmere, Easedale and Thirlmere Lakes, *Bythostrephes cederstromii*, *Bosmina longirostris*, and *Hyalodaphnia kathbergensis*]. Research, Nov. 1888, p. 79.
- ISAAC C. THOMPSON. Isle of Man, Lanc. S., Cheshire.
Second Report on the Copepoda of Liverpool Bay [cites *Pseudocalanus elongatus*, *Dias longiremis*, and *Oithona spinifrons* as very common throughout the district, and *Calanus finmarchicus* at the Isle of Man, *Temora velox* at Sefton and Leasowe (inland), *Eurytemora hirundo* in Crosby Channel, *Longipedia coronata* as common throughout the district, *Laophonte similis*, *L. curticaudata*, *Dactylopus tisboides*, *D. stromii*, and *Diosaccus tenuicornis*

at Leasowe, *Thalestris clausii*, *Th. rufocincta*, *Th. hibernica*, *Th. longimana*, *Westwoodia nobilis*, *Harpacticus fulvus*, *Peltidium interruptum*, and *Acontiophorus scutatus* at Hilbre Island]. Proc. Biol. Soc. Liverp., Vol. 2, 1887-8, publ. 1888, pp. 63-71, and plates 1 and 2; reprinted in Second Report on Fauna of Liverpool Bay, 1889, with pagination unaltered.

ISAAC C. THOMPSON.

Isle of Man, Lanc. S., Cheshire.

Third Report on the Copepoda of Liverpool Bay (the L.M.B.C. District) [recording *Notodelphys allmanni* Th., *Doropygus pulex* Th., *D. poricauda* Br., *Botachus cylindratus* Th., *Ectinosoma spinipes* Br., *Bradya typica* Boeck, *Stenhelia ima* Br., *Nannopus palustris* Br., *Thalestris harpactoides* Cl., *Scutellidium tisboides* Cl., and *Cyclopicera lata* Br., from the Isle of Man, *Tachidius brevicornis* Müll. from near Formby, *Stenhelia hispida* Br., *Laophonte curticauda* Boeck, *Thalestris harpactoides* Cl., and *Scutellidium fasciatum* Boeck, from Hilbre Island]. Proc. Liverp. Biol. Soc., vol. 3, 1888-89, publ. 1889, pp. 181-191 and plate 8; reprinted, with pagination altered to 54-64, in Second Report on Fauna of Liverpool Bay, 1889.

ISAAC C. THOMPSON.

Isle of Man.

Appendix to Third Report on the Copepoda of Liverpool Bay (the L.M.B.C. District) [describing *Jonesiella hyemæ* n. sp., dredged in Port Erin Bay, Ap. 1889]. Proc. Liverp. Biol. Soc., vol. 3, 1888-9, publ. 1889, pp. 192-194, and plate 9; reprinted with pagination altered to pp. 65-67, in Second Report on Fauna of Liverp. Bay, 1889; reviewed in Research, Nov. 1889, p. 119.

ISAAC C. THOMPSON.

Lanc. S., Cheshire.

On some New and Rare Copepoda recently found in Liverpool Bay [eleven species named as new to Britain and ten others as rare, but no indication as to locality]. 59th Rep. Brit. Ass., Newcastle, 1889, publ. 1890, p. 638.

E. G. TOOKER.

Isle of Man.

An Exhibition of Some Interesting Biological Phenomena [as shown by an example of *Daphnia pulex* from a pond near Castletown]. Back Trans. I. of Man N.H.S., i., 115; publ. with Yn Lioar Manninagh, No. 7, Oct. 1890.

W. BARWELL TURNER.

York S.W.

Microscopic Life near Askern [20th May, 1886; *Cyclops quadricornis*, *Canthocamptus minutus*, *Diaptomus castor* noted]. Nat., Sep. 1886, p. 279.

J. STANLEY TUTE.

York Mid W.

Microscopic Fauna and Flora of Markington, Mid-West Yorkshire [*Daphnia pulex*, *Cyclops quadricornis* and *Astacus fluviatilis*, with localities, mentioned]. Nat., May 1890, p. 151.

ALFRED O. WALKER.

Cheshire.

The Crabs, Lobsters, and Shrimps of the Chester District [the species are cited, but not in list form]. Young Nat., April 1884, pp. 105-109.

ALFRED O. WALKER.

Cheshire, Isle of Man, Lanc. S.

Report on the Podophthalmata of the L[iverpool].M.B.C. District [giving a detailed list of 44 species]. First Rep. on Fauna of Liverp. Bay, 1866, pp. 221-226.

A. O. WALKER.

Lanc. S.

Notes on the Mysidæ of Liverpool Bay [with particular notes (with woodcut) on the occurrence of abnormal examples of *Mysis vulgaris* at the mouth of the Alt, where is much sewage]. Proc. Liverp. Biol. Soc., vol. i., 1886-87, publ. 1887, pp. 26-28.

Chesh., Lanc. S. and W., Isle of Man, Durham, and Northumberland.

ALFRED O. WALKER.

Report on the Crustacea of Liverpool Bay, 1886-1887 [cites *Hyale wilsoni* Rathke, *Gammarus locusta*, and *Lysianassa longicornis* from Hilbre Island,

Sept. 1894.

Harpinia plumosa Kr., *Pleustes bicuspis* Kröyer, *Ampelisca equicornis* Bruz., *A. lævigata* Lillj., *Haploops tubicola* Lillj., *Gammaropsis erythrophthalmus* Lillj., *Pandalus brevirostris*, *Hippolyte pusiola* Kr., *Crangon* (*Steiracrangon*) *allmanni* Kin., *Galathea intermedia* Lillj., *Pagurus cuanensis* Thomps., *Ebalia tuberosa* Penn., *E. tumefacta* Mont., *Eurynome aspera* Penn., and *Inachus dorsettensis* Leach, all dredged at two points between Liverpool and Isle of Man, in the 'Weathercock,' 28th August, 1886; *Atylus swammerdamii* M. Edw., *Halirages* (*Atylus*) *bispinosus* Bate, *Gammarus locusta*, *Stenothoe* (*Montagua*) *marina* Bate, all dredged off Fleetwood, 7 fathoms, Oct. 1886, by R. D. Darbishire; *Diastylis bradyi* Norm., on Northumberland and Durham coasts; *Mysis vulgaris* Thomps., at mouth of Alt (F. Archer), *Palinurus vulgaris* Latr., a fine example taken in Isle of Man is in Chester Museum, and *Pagurus levis*, Thomps., from Douglas]. Proc. Liverp. Biol. Soc., vol. 2, 1887-8, publ. 1888, pp. 171-181, and plate 13; reprinted in Second Report on Fauna of Liverpool Bay, 1889, same pagination.

ALFRED O. WALKER.

Isle of Man.

Third Report on the Higher Crustacea of the L[iverpool].M.B.C.

District [recording *Xantho rivulosa* Riss, *Eupagurus pubescens* Kr., *Anapagurus hyndmanni* Th., *Galathea dispersa* Sp. Bate, *Munida banffia* Penn., *Caridion gordonii* Sp. Bate, *Pandalus brevirostris* Rathke, *Cuma scorpioides* Mont., *Iphinoë trispinosa* Goods., *Pseudocuma circaria* Van Ben., *Janira maculosa* Mont., *Orchestia gammarellus* Pall., *Lysianax audouinianus* Sp. Bate, *Hippomedon denticulatus* B. & W., *Bathyporeia pilosa* Lindst., *Metopa alderi* Bate, *Monoculodes longimanus* B. & W., *Megaluropus agilis* Norm., *Atylus vedlomensis* B. & W., *Triteta gibbosa* Bate, *Melita obtusata* Mont., *Ampelisca tenuicornis* Lillj., *A. lævigata* Lillj., and *Photis reinhardi* Kr. for the Isle of Man]. Proc. Liverp. Biol. Soc., vol. 3, 1888-89, publ. 1889, pp. 195-213, and plates 10-11; reprinted with pagination altered to 68-86, in Second Report on the Fauna of Liverpool Bay, 1889.

ALFRED O. WALKER.

Isle of Man, Cheshire.

Report on the Higher Crustacea of Liverpool Bay taken in 1889

[recording *Siriella norvegica* Sars, *Gastrosaccus spinifer* Goes, *Conilera cylindracea* Mont., *Spheroma rugicauda* Leach, *Cymadocea emarginata* Leach, *Tryphosa ciliata* Sars, *Pontocrates haplocheles* Grube, *Triteta dochichonyx* Neb., *Halirages bispinosus* Bate, *Calliopius læviusculus* Kröyer, *C. norvegicus* Boeck, *Leucothoë spinicarpa* Ab., *Amathilla sabinii* Leach, *Gammarus locusta* L., *Stenothoe monoculoides* Mont., and *Colomastix pusilla* Grube, noted for the Isle of Man, with details; also *Astacilla longicornis* Sow. from mouth of Dee]. Trans. Liverp. Biol. Soc., vol. 4, 1889-90, publ. 1890, pp. 239-251 and plate 16; reprinted, with same pagination, in Third Report on Fauna of Liverpool Bay, 1892.

ALFRED O. WALKER.

Isle of Man, Lanc. S., Cheshire.

Revision of the Podophthalmata and Cumacea of Liverpool Bay to

May 1892 [enumerating, with localities, 67 species of Podophthalmata and 8 Cumacea; of which 25 Podophthalmata and 3 Cumacea are recorded for Isle of Man, 9 and 1 for Cheshire, 12 and 0 for Lancashire South, while 10 and 0 are given as 'general,' and 18 and 5 are confined to Welsh localities; making the total for the English portion of the area amount to 49 and 3 respectively]. Trans. Liverp. Biol. Soc., vol. 6, 1891-2, publ. 1892, pp. 96-104; reprinted in 3rd vol. of Reports on Fauna of Liverpool Bay, 1892, with pagination altered to 50-58.

CHAS. H. H. WALKER.

Cheshire.

Microscopic Notes [on Cheshire side of Mersey, 25th May; *Cyclops*, *Daphnia pulex*]. Young Nat., Sept. 1889, p. 186.

C. H. H. WALKER.

Isle of Man.

Tiding at Eastertide [in the Isle of Man; *Cancer pagurus*, *Pagurus bernhardus*, *Galathea nexa*, *Idotea tricuspida*, *Podocerus pulchellus*, *Galathea squamifera*, *Porcellana longicornis* (*P. platycheles* apparently absent), noted]. Young Nat., Nov. 1890, pp. 216-220.

FLYING-FISH OFF WHITBY.

THOS. STEPHENSON,

Whitby.

I HAVE great pleasure in recording what I take to be not only a rarity but an addition to the Fauna of Yorkshire.

On the 28th July, was picked up on the Scarr near to and on the South side of the East Pier, by a young man named Holmes, a specimen of flying-fish, which got into the hands of George Kitching on the 30th, by whom it has been preserved for our Museum; it appears to me, from the length of the ventral fins, to be a young specimen of the Greater Flying-fish (*Exocetus exiliens*). The following are the dimensions, etc., as nearly as I could ascertain, the fins being unfortunately more or less damaged.

Length from snout to extremity of caudal fin, rather over 10 inches.

Length of each pectoral fin (which is crossed by a beautiful light coloured bar), 5 inches.

Length of pectoral fins from tip to tip, $10\frac{5}{8}$ inches.

Length of each ventral fin, 3 inches.

Length of dorsal fin, $1\frac{1}{2}$ inches.

Length of longest spine of dorsal fin, $1\frac{1}{2}$ inches.

Anal fin damaged.

Length of caudal fin (damaged), lower fork about $1\frac{3}{4}$ inches; if perfect would have been about 2 inches.

Eyes large.

Scales large.

This is the first specimen of Flying-fish I have heard of either being found or seen at or near Whitby or even on the North-East Coast, and so, I think, an addition to the Yorkshire fauna, for on reference to Clarke and Roebuck's Handbook of Yorkshire Vertebrata I neither find a single record of its capture on the Yorkshire Coast nor is this fish entered in the Index.

NOTE—COLEOPTERA.

An addition to the Yorkshire Hydropori.—On the occasion of a short visit to Saltburn, last April, I took two or three specimens of a *Hydroporus*, which proves to be the rare *H. incognitus* Sharp. I indicated the locality to Mr. M. L. Thompson, of that place, and he has secured a nice series of the insect. It resembles the common *H. palustris*, but its larger size and much more shiny appearance readily distinguish it, even without a magnifier.—W. C. HEY, West Ayton, August 5th, 1894.

NOTES—ORNITHOLOGY.

Spotted Crake in Holderness.—Whilst looking over the collection of Mr. Fisher, of Aldborough, Holderness, I observed a fine specimen of the Spotted Crake (*Porzana maruetta*). The bird was shot in November, 1892, near the coast. Mr. Fisher also has a Yellow Bunting (*Emberiza citrinella*), with a white wing-bar. It was one of a flock of the usual type, and was not recognised when flying.—T. PETCH, Hedon, Jan. 27th, 1894.

Flamborough Bird-Notes.—I have been informed by the fishermen that at the last high tides hundreds of Guillemots (*Lomvia troile*) brought down their young on their backs, that is, when the tides come right under the cliffs. Just imagine the old birds bringing down their young from such a tremendous height; and the little wee thing dives as soon as he reaches the water, only to remain for a very short time, then moving southward.—MATTHEW BAILEY, Flamborough, July 23rd, 1894.

Crossbills in the Lake District.—A flight of Crossbills (*Loxia curvirostra*), numbering 17 to 19, appeared on the upper slopes of the Esthwaite valley, on July 10th; they were then very noisy, restless and quick; they have since, remaining to feed, become more cautious and quiet. The flock seems to have divided, as they have several times passed the house no more than eight in number. It has been occasionally possible to get quite close to these birds, and watch them feeding. Most of them (no doubt the young) appear a nondescript brown, while a few show a yellowish-green hue; but in a party whose numbers I could not be sure of (so quiet did they keep in the trees), I saw two red birds, the adult males. Though on that sunny day they were stationed in the oak trees, and were poking into the bark, especially that of dead limbs of the trees, it is clearly the harvest of fir-cones that keeps them in the neighbourhood. The seeds of the resinous and odorous larch-cone, though its bracts are yet green, are not very palatable. The bird's method in securing these fast-locked treasures is this: after ambling along the branch to its end, and reaching or swinging to the tiny twigs that bear the cone, it breaks them off and carries it back to the bough, where, pinned down with claw, it proceeds to work upon it with wriggling head and wide distended beak. First, in the firm but green scale that shields the couple of seeds, a minute needle-like hole is made (no doubt by a stab of the fine beak end); and from this hole the scale is ripped open to its edge. This rent unlocks the door (so to speak) of the scale; but still does the seed lie far below the rent at the base, and the luck of reaching it out must, I conclude from the admirable drawings in Yarrell, be performed by the curious hinged tongue of the bird, which when once the hard rending work is done by the curved beak, can probe downwards. Numbers of these cones, with scales so neatly torn that at first the injury does not show, lie below the trees, from which the seeds are all (as if by magic-process) extracted. The bird, when the cone is stripped, cleans its beak both on bough and with its claw.—MARY L. ARMITT, Ambleside, Aug. 14th, 1894.

NOTES—BOTANY.

Moonwort and Adder's-Tongue in Langstrothdale.—About the middle of July last, I found *Betrychium lunaria* growing abundantly at the top of the 'Jeffery Pot,' at an elevation of fully 1,900 ft. or more. I also found it at Oughtershaw, at the station at which it was noted some years ago. *Ophioglossum vulgatum* is still growing and increasing at the station at Oughtershaw (1,170 ft.) previously noted.—GERTRUDE J. WOODD, Oughtershaw Hall, Aug. 17th, 1894.

Aliens at Starbeck.—On Sunday, August 12th, two young botanists, daughters of Mr. Preston, of Holmfirth, accompanied me on a search for new plants. They picked up three or four near Messrs. Tattersall's malt-kiln, Starbeck. As they did not accord with any British species, I sent three to Kew, and they have been identified as follows:—(1) *Alyssum (Berteroa) incanum*, (2) *Melilotus parviflora*, (3) *M. caerulea*. All of them are new records for Nidderdale apparently, and No. 3 a new record for Yorkshire. The situation of course shows they are aliens, but the seed would in (1) and (2) almost certainly ripen.—JAMES W. ADDYMAN, Belmont, Starbeck, August 19th, 1894.

BOTANICAL NOTES FROM LANGSTROTHDALE.

C. H. B. WOODD, M.A.,

Oughtershaw Hall, Langstrothdale, Yorkshire.

THE following plants have not been previously observed by us in this district, or have escaped inclusion in former lists contributed to 'The Naturalist.' The elevations are added where the normal limit is exceeded:—

- Armoracia rusticana.** Banks of Wharfe, Hubberholme. No doubt an escape.
- Geum urbanum.** Oughtershaw, at 1,200 feet.
- Arabis thaliana.** Oughtershaw.
- Thlaspi alpestre** At 1,900 ft., above Oughtershaw Tarn.
- Draba incana.** At 1,900 ft., above Oughtershaw Tarn (previously recorded in 'The Flora of West Yorkshire').
- Barbarea vulgaris.** Banks of Wharfe, Kettlewell.
- Stellaria uliginosa.** Pot-hole near Oughtershaw Tarn, 1,800 ft.
- Lychnis vespertina.** Cosh Riggs, Oughtershaw. 1,250 ft.
- Malva sylvestris.** Buckden, 700 feet.
- Potentilla alpestris.** Cosh Riggs, Oughtershaw.
- Melampyrum pratense** var. **montanum.** Moor top by Oughtershaw Tarn; among Bilberry and Ling.
- Pedicularis palustris.** Oughtershaw.
- Gymnadenia albida.** Oughtershaw meadows (one plant previously noted in 'The Flora of West Yorkshire').
- Polygonum viviparum.** Cosh Riggs, Oughtershaw, at 1,250 ft. First record for the Wharfe district.
- Tamus communis.** Woods above Buckden, at about 800 ft.
- Hieracium pilosella.** Jeffery Pot, etc.
- Hieracium murorum.** Oughtershaw (noted for Buckden in 'The Flora of West Yorkshire').
- Chærophyllum sylvestre.**
- Bunium flexuosum.**
- Sanicula europæa.** Oughtershaw, at 1,200 ft.
- Salix aurita.** Pot-hole, Oughtershaw Tarn, 1,800 ft.
- Selaginella selaginoides.** Jeffery Pot.
- Chara vulgaris.** Beckermonds Tarn.

OCCURRENCE OF THE HUMP-BACKED WHALE ON THE LINCOLNSHIRE COAST.

JOHN CORDEAUX, M.B.O.U.,
Great Cotes House, R.S.O., Lincoln.

IN the first week of September an example of this species, *Megaptera longimana* Rudolphi, was stranded on the Lincolnshire coast at Marsh Chapel. Mr. G. H. Caton Haigh, President of the Vertebrate Section of the Lincolnshire Naturalists' Union, has sent me by letter, under date of September 8th, the following particulars taken on the spot:—'When I got there the captors had commenced cutting it up. It is a small specimen about twenty-five feet long. The tail and part of the carcase and one flipper were already gone. The other flipper was partly under the body, and appeared to be seven or eight feet long, and perfectly white. Rest of body black, excepting a few white marks on under side. I have secured the head.' The Hump-backed Whale, an Arctic species, has been recorded three times previously in the British seas, and on the east coast of England had occurred as far south as near Newcastle-on-Tyne; this was on the 19th September in 1829.

Sept. 12th, 1894.

NOTE—ORNITHOLOGY.

Flamborough Bird-Notes.—The very best specimen of the Crossbill (*Loxia curvirostra*), a male, I have ever seen was shot here on August 24th; I had been on the look-out for them for several weeks. I have already noticed a great many birds which come from the North to the Headland making ready to take their departure from us, no doubt to some other country far remote, such as the Redstart (*Ruticilla phaniceus*), Wheatear (*Saxicola oenanthe*), Wagtails (*Motacilla* sp.), Cuckoo (*Cuculus canorus*), Nightjars (*Caprimulgus europaeus*), young birds, and a great many Swallows (*Hirundo rustica*), which still keep coming in large numbers. I have not seen the Swift (*Cypselus apus*) since August 21st.—MATTHEW BAILEY, Flamborough, September 14th, 1894.

NOTE—BOTANY.

Sclerochloa maritima and Plantago coronopus near Grange.—In Mr. Soppitt's 'Botanical Rambles about Arnside,' it is stated that *Sclerochloa maritima* Lind. was found somewhere between Grange and Arnside. Where did the plant occur, in Lancashire or Westmorland? Mr. Baker, Lake Flora, 230, writes:—'I have no record for either this or *S. distans* within our bounds, and have sought for them in vain in Furness.' Which means that to 1885 the species had not been found in, or at any rate chronicled for, North Lancashire.

Plantago coronopus L. is only occasionally to be found in Cartmel, but in Furness it is by no means scarce. I presume that the late Mr. C. J. Ashfield's list of Silverdale plants is known to Mr. Soppitt and his friends.—LISTER PETTY, Ulverston, September 3rd, 1894.

THE PIONEER LIST OF LINCOLNSHIRE LAND AND FRESHWATER SHELLS.

THOMAS BALL.

LAND-SHELLS OF LINCOLNSHIRE.

DEAR SIR,—I have never seen any account of the Lincolnshire land-shells, neither is this county ever mentioned as a locality in conchological works. So, as your readers may like to know what is to be found in this little-explored neighbourhood, I send a list of shells which I have taken in the northern part of the county during the last three years:—

<i>Cyclas cornea</i>	<i>Planorbis margina-</i>	<i>Helix virgata</i>
— <i>rivicola</i>	— <i>tus</i>	— <i>arbustorum</i>
— <i>caliculata</i>	— <i>vortex</i>	— <i>hispida</i> (vars.)
<i>Pisidium</i> — two or three species	— <i>spirorbis</i>	— <i>rufescens</i>
	— <i>nitidus</i>	— <i>ericetorum</i>
<i>Unio tumidus</i>	<i>Succinea putris</i>	— <i>cantiana</i>
— <i>pictorum</i>	— <i>gracilis</i>	— <i>nemoralis</i>
<i>Anodonta cygnea</i>	* <i>Conovulus myoso-</i>	* — <i>do. var. hor-</i>
<i>Dreissena polymor-</i>	— <i>tis</i>	— <i>tensis</i>
— <i>pha</i>	<i>Carychium mini-</i>	— <i>aspersa</i>
<i>Bithinia Leachii</i>	— <i>mum</i>	<i>Bulimus obscurus</i>
— <i>tentaculata</i>	<i>Vitrina pellucida</i>	<i>Pupa umbilicata</i>
<i>Paludina listeri</i>	<i>Zonites cellarius</i>	— <i>muscorum</i>
<i>Valvata piscinalis</i>	— <i>nitidus</i> (one	— <i>edentula</i>
— <i>cristata</i>	— <i>shell</i>)	— <i>pygmæa</i> (one
<i>Limnæa peregra</i>	— <i>crystallinus</i>	— <i>shell</i>)
— <i>stagnalis</i>	— <i>nitidulus</i>	* <i>Balea fragilis</i>
— <i>palustris</i>	— <i>alliarius</i>	<i>Clausilia laminata</i>
— <i>auricularius</i>	— <i>radiatulus</i>	— <i>nigricans</i>
— <i>truncatulus</i>	— <i>purus</i>	<i>Zua lubrica</i>
<i>Physa hypnorum</i>	<i>Helix aculeata</i>	* <i>Achatina acicula</i>
— <i>fontinalis</i>	— <i>pygmæa</i>	(one shell)
<i>Planorbis corneus</i>	— <i>pulchella</i>	* <i>Cyclostoma ele-</i>
— <i>albus</i>	— <i>do. var. costata</i>	— <i>gans</i> (two dead
— <i>nautilæus</i>	— <i>rotundata</i>	— <i>shells</i>).
— <i>contortus</i>	— <i>caperata</i>	
— <i>carinatus</i>	— <i>fulva</i>	

All but the five marked (*) were taken within a radius of a

mile and a half, though to find some of them *plentifully* it is necessary to take in more ground.

Yours truly,

THOS. BALL.

Young England, Vol. 3, No. 5, May 1, 1864, p. 76, col. 2.

LAND SHELLS OF LINCOLNSHIRE.—Dear Sir,—You were kind enough to insert my list of North Lincoln land shells this month, but omitted to name my station, Brigg, and as the list applies especially to its neighbourhood, perhaps you will be so good as to rectify the omission next month. I am inadvertently a day or two behind time in writing.—Yours truly,

THOS. BALL, Brigg, Lincolnshire, May 13, 1864.

Young England, Vol. 3, No. 7, July 1, 1864, p. 128, col. 1.

[WHEN I compiled my 'Materials towards a List of the Land and Freshwater Mollusca of Lincolnshire,' which appeared in this journal for August and September 1887, pp. 245-272, I was unaware of the existence of any previous list, as would be seen by the introductory remarks to my paper.

I was therefore much indebted to my friend Mr. George Roberts, of Lofthouse, for calling my attention to Mr. Ball's list of the species he had found near Brigg, which I had overlooked, from having been published in a boys' magazine which was at the time devoting much attention to natural history, but which is now somewhat scarce, and hardly known to naturalists.

It appears to me that it will be useful to preserve Mr. Ball's list, which is the pioneer one for Lincolnshire, from oblivion, by reprinting it in the 'Naturalist.' We therefore reproduce it 'verbatim, literatim, et punctuatim,' to produce as nearly as possible a facsimile of the original.—W.D.R.]

NOTE—HYMENOPTERA.

Sirex juvencus near Barnsley.—A female *Sirex juvencus* was brought to me to-day. It was taken in Wath Main Pit, and had evidently escaped from one of the sprags.—E. G. BAYFORD, 20 Eldon Street, Barnsley, Sept. 4th, 1894.

NOTE—MOLLUSCA.

Limax cinereo-niger at Hayburn Wyke.—On the 31st of August, I received from my friend Mr. F. W. Fierke, who was spending a few days with Mr. T. Petch, B.A., in working that portion of the Yorkshire coast, a number of slugs they had collected at Hayburn Wyke. The consignment included a number of adult examples of *Arion minimus* and of *A. circumscriptus*, a nearly adult *A. subfuscus*, a typical example, also nearly full-grown, of *Limax marginatus* (= *arborum*), a small *L. maximus* (typical in markings), and a very fine full-grown specimen of the rare *L. cinereo-niger*. This was one of the largest I have ever seen, and was of the typical form, only that it was very dark lead-colour instead of being quite black; the usual dorsal stripe being normal.—W. DENISON ROEBUCK.

Naturalist,

THE CONSTITUENTS OF THE NORTH LANCASHIRE FLORA, 1597(?) - 1893.

LISTER PETTY,

Uiverston.

FOURTH PAPER.

- Viola Curtisii** Forster. C.F.R., 1831, but earlier as *V. littoralis* Curtis. See J. of B., 1892, 151.
1885. Baker's Flora, 43. Sands of the shore in Walney Island, F. A. Lees.
- Viola lutea** Huds. C.F.R., 1597.
1885. J. of B., 330. Furness Fells, nr. Colwith. A. W. Bennett.
- Polygala vulgaris** L. C.F.R., 1562.
1843. Jopling, F. and C., 259. Sea Wood, Bardsea, in bogs and headlands (Aiton), and in Cartmel (Wilson). 1857. Phytologist, 257. Top of Humphrey Head, Dr. Windsor.¹ 1861. Phytologist, 259. Dr. Windsor rep. 1864. Linton, Lake Country, 319. 'Common,' no locality. 1864. Naturalist, 39. Humphrey Head, Leo H. Grindon. 1874. J. of B., Miss E. Hodgson, no locality.
- Polygala serpyllacea** Weihe. C.F.R., 1847.
1874. J. of B., Miss E. Hodgson. 'Apparently the more frequent form.'
- Dianthus Armeria** L. C.F.R., 1634.
1874. J. of B., 370. Cart Lane, Grange, Rev. W. M. Hind. 1889. Westm. Note-book, 130, in 'Records for Westm. Plants,' by Arthur Bennett. 'Lake Lancashire, Dr. Hind.' Note.—Cart Lane is the locality for several aliens, and there are gardens close by. 1883. Watson, Top. Bot. 'Scarcely better than a casual in some of the counties named.'
- Dianthus deltoides** L. C.F.R., 1597.
1843. Jopling, Furness and Cartmel, 260. In common pastures in High Furness, Aiton. 1885. Baker's Flora, 45. Aiton rep. Note.—Watson gives the 'v.c. 69,' without any remark, but Mr. Martindale points out in the Westm. Note-book, p. 74, sub *Lychnis*

¹ Dr. Windsor, 'Index,' 184. In addition to the sources of information there given, add 'Lees, Flora of W. Yorks.,' 1888, 348; sub *Orobancha rubra*, where Mr. J. G. Baker, in a note, records an evening passed in the Doctor's company in about 1855. In the 'Phytologist,' 1855, p. 146, Dr. Windsor mentions incidentally his early medical training. And in the same Journal, 1857, 257, that he had relations in the neighbourhood of Flookburgh, N. Lancashire; the cause of his visiting the district?

Flos-cuculi, that a mistake has arisen in translating the old name into binomials. So far as Westmorland is concerned, I think Mr. Martindale's contention proved, but am afraid it will not help here. Aiton omits all mention of the *Lychnis* from his list: the locality would suit either.

Dianthus cæsius Sm. C.F.R., 1724.

1843. Jopling, F. and C., 260. Very rare. On the limestone rocks in Furness, Aiton. 1885. Baker's Flora, 45. Aiton rep. 'Doubtless a mistake.' Note.—Watson, Top. Bot., 1883, 69, brackets the record '[69]' as an error for the whole area.

Saponaria officinalis L. C.F.R., 1597.

1843. Jopling, F. and C., 260. A few plants near Conishead Priory, Aiton. 1885. Baker's Flora, 45. Aiton rep. 1892. Naturalist, 83. Newlands Bottom, near Ulverston, W. Duckworth. Road-side, outside a house, near Rampside, 1888, L. Petty.

Silene Cucubalus Wibel. Behen Album. C.F.R., 1597.

Circ. 1680, see 1889. 1864. Linton, Lake Country, 319 (as *S. inflata* Sm.). 'Common,' no locality. 1874. J. of B., Miss E. Hodgson. 'Not uncommon.' 1889. Westm. Note-book, 183. Mr. Martindale's extracts from Lawson's Note-book, circ. 1680. 'Dunnerholme, *copiose*,' Lawson.

Silene maritima With. C.F.R., 1570.

1843. Jopling, F. and C., 260. Shore at Conishead Priory, Aiton. Park Head, Holker, Wilson. 1857. Phytologist, 257. Shore below Humphrey Head, Dr. Windsor. 1860. Phytologist, Dr. Windsor rep. 1861. Phytologist, 237. Shore east of Humphrey Head,¹ C. J. Ashfield. 1864. Naturalist, 39. Shore below Humphrey Head, Leo. H. Grindon. 1869. Aspland's Guide. Within six miles of Grange, A. Mason. 1874. J. of B., Miss E. Hodgson. Round the shores. 1885. Baker's Flora, 45-6. Furness shores, at Bigger Bank, Bardsea, Flookborough, Humphrey Head, and Grange, abundant (Miss Hodgson, W. Foggitt, C. Bailey, etc.). Inland near the summit of Coniston Old Man, Miss Beever.²

NOTE.—Dr. Windsor's locality, 1857, is probably shore *west* of Humphrey Head.

¹ C. J. Ashfield. See Britten and Boulger's 'Index,' p. 6.

² Miss Beever. Mr. Baker tells me that Miss Susan Beever is the lady mentioned in his 'Flora.' Born Nov. 27th, 1805, at Manchester? Died November, 1893, at the Thwaite, Coniston, Lancs. Contributed to W. Baxter's 'Flowering Plants,' 1834-43, and Baker's 'Flora,' 1885. Some of her letters to Mr. Ruskin are printed in 'Hortus Inclusus,' 1887, pp. 155-172. I am indebted to Mr. W. G. Collingwood, of Coniston, for calling my attention to Baxter, and giving the biographical particulars.

[*Gypsophila muralis* L.

1875. J. of B., 14. As a specimen of this is in Miss Hodgson's Herbarium in Herb. B. M., Dr. Trimen asked: 'Has it been intentionally planted?' Page 78. Miss H. replied that she found it in company with other aliens near Jacklands, the site of an old garden, once a clay-pit.]

Lychnis alba Mill. *L. vespertina* Sibth. C.F.R., 1629.

1874. J. of B., Miss E. Hodgson. No locality. 1885. Baker's Flora, 47. Grange.

Lychnis diurna Sibth. *L. dioica* L. C.F.R., 1597.

1843. Jopling, F. and C., 260. Woods about Conishead Priory, Aiton; and Holker, Wilson. 1864. Linton, Lake Country, 319. Common, no locality. 1874. J. of B., Miss E. Hodgson. No locality.

Lychnis Flos-cuculi L. C.F.R., 1570.

1864. Linton, Lake Country, 319. Common, no locality. 1874. J. of B., Miss E. Hodgson. No locality.

Lychnis alpina L. C.F.R., 1811.

1879. Rep. Bot. Ex. Club. Coniston Old Man, R. Potter. 1885. Baker's Flora, 46-7. Rep.

Lychnis Githago L. C.F.R., 1538.

1874. J. of B., Miss E. Hodgson. No locality.

Cerastium tetrandrum Curt. C.F.R., 1793.

1874. J. of B., Miss E. Hodgson. North End Warren, Walney; wall tops near Ulverston. 1885. Baker's Flora, 52. Repeated.

Cerastium petræum Schultz.

1874. J. of B., 370. A species said to be this by Dr. Trimen. 'Eller How, near Lindale. W. M. Hind.'

Cerastium glomeratum Thuil.

C. viscosum L. (the earlier name, in part). C.F.R., 1667.

1864. Linton, Lake Country, 320. Common, no locality.

1874. J. of B., Miss E. Hodgson. No locality.

Cerastium triviale Link.

1874. J. of B., Miss E. Hodgson. No locality.

[*Stellaria nemorum* L. C.F.R., 1724.

This species is given by the following writers in reference to the county of Lancaster, not as before, North Lancs. only. Of course, other compilers have copied the statements in their 'Floras,' etc., but with these I have nothing to do.

1762. Hudson, Fl. Ang., ed. 1, 1667. 'In sylvis et sepibus humidis, et ad ripas fluviorum in comit. Ebor. Lancast.' etc. '*passim*.'

1775. Jenkinson, Brit. Plant., 93. 'In woods, hedges, and on banks

of rivers' in Y., Lancs., Westm., Cumb. 1778. Hudson, ed. 2, 190. As in ed. 1. 1805. Turner and Dillwyn, Bot. Guide, 1, 369. 'Everywhere in this county, Hudson.' 1835. Watson, New Bot. Guide, ii., 300. 'Everywhere in this county, B. G.' 1885. Baker's Flora, 51. 'I have no record for Lake Lancashire.' It is included in Top. Bot., 1883, vice-county 69, on Westmorland evidence.]

Note.—I have no note of *S. aquatica* Scop. How far the above refers to one or the other species there is nothing to show. Mr. J. A. Martindale puts the matter plainly in Westm. Note-book, 1888, 75, in dealing with Wilson's record. Not having seen either in N. Lancs. I can offer no definite opinion, but there seems no reason why *S. nemorum* should not occur. In Mr. Baker's 'Flora,' 51, two stations are given in Westmorland, near Windermere Lake. Mr. Lees, in 'Fl. of W. Yorks.,' 165, gives many places for it, but for *S. aquatica* a few only, and those on the other side of that county (Leeds, Wakefield, Rotherham), and stated to be on the whole 'rare, but locally plentiful.' There are no Westmorland, S. or S. W. Cumberland records in Baker, and none are known to me. Perhaps Mr. Hodgson can tell us?

Stellaria media Cyr. C.F.R., 1538.

1864. Linton, Lake Country, 320. Common, no locality. 1874. J. of B., Miss E. Hodgson. No locality. 1885. Baker's Flora, 51. 'I have traced it up to 500 yards . . . on Coniston Old Man,' J. G. Baker.

Stellaria Holostea L. C.F.R., 1562.

1864. Linton, Lake Country, 320. 'Common,' no locality. 1874. J. of B., Miss E. Hodgson. No locality.

Stellaria graminea L. C.F.R., 1597.

1864. Linton, Lake Country, 320. 'Common,' no locality. 1874. J. of B., Miss E. Hodgson. No locality.

Stellaria uliginosa Murr. C.F.R., 1597.

1874. J. of B., Miss E. Hodgson. No locality. 1885. Baker's Flora, 52. 'Ascends to the high springs of . . . Coniston Old Man,' J. G. Baker.

Arenaria verna L. C.F.R., 1677.

1869. Aspland's Guide. Within six miles of Grange, A. Mason. 1874. J. of B., Miss E. Hodgson. On Hampsfield Fell, with double flowers. 1885. Baker's Flora, 50. Miss E. Hodgson rep., and '400 feet' added. Limestone banks between Grange and Lindale. 1892. Naturalist, 81. On Hampsfell; no double flowered form seen, L. P.

Arenaria trinervia L. C.F.R., 1597.

1864. Linton, Lake Country, 320. 'Common,' no locality. 1874. J. of B., Miss E. Hodgson. No locality.

- Arenaria serpyllifolia** L. C.F.R., 1597.
 1861. Phytologist, 259. Humphrey Head, Dr. Windsor. 1874.
 J. of B., Miss E. Hodgson. No locality.
- VAR. **leptoclados** Guss.
 1874. J. of B., Miss E. Hodgson. On the limestone of
 Humphrey Head. 1885. Baker's Flora, 50. Repeated.
- Arenaria peploides** L. *Anthyllis maritima*. C.F.R., 1570.
 Circ. 1680; see 1889. 1849. Otley's Guide, ed. 8, 139, as
Honkenya Ehrh. On the shore at Flookburgh. 1874. J. of B.,
 Miss E. Hodgson. Round the shores. 1885. Baker's Flora, 49.
 Isle of Walney and all round the Furness shores, Miss Hodgson.
 Plentiful on Barrow Island, C. Bailey. Shore marshes at Cark
 and Flookborough, J. G. Baker. 1889. Westm. Note-book, 183.
 Mr. Martindale's extracts from 'Lawson's Note-book, circ. 1680.'
 'Waney' (i.e., Walney).
- Sagina apetala** L. C.F.R., 1677.
 1885. Baker's Flora, 48. Coniston, a troublesome weed in
 garden walks, Miss S. Beever. Foot of walls at Grange, J. G. Baker.
- Sagina ciliata** Fries. C.F.R., 1848.
 1885. Baker's Flora, 48. Crevices of limestone walls at Kent's
 Bank, J. G. Baker.
- Sagina procumbens** L. C.F.R., 1629.
 1864. Linton, Lake Country, 329. 'Common,' no locality.
 1874. J. of B., Miss E. Hodgson. No locality.
- Sagina nodosa** E. Mey. C.F.R., 1633.
 1874. J. of B., Miss E. Hodgson. No locality. 1885. Baker's
 Flora, 48-9. Fells above Grange, and on the shore, T. J. Foggitt,
 J. G. Baker.
- Spergula arvensis** L. C.F.R., 1570.
 1864. Linton, Lake Country, 319. 'Common,' no locality. 1874.
 J. of B., Miss E. Hodgson. No locality. 1888. Baker's Flora, 49.
 Three hundred yards over Coniston, J. G. Baker.
- Lepigonum rubrum** Fr. *Arenaria rubra* L. C.F.R., 1632.
 1843. Jopling, F. and C., 261. On fields near the shore, Aiton.
 1885. Baker's Flora, 50. Aiton rep., and 'the other species, i.e.,
neglectum, probably intended here,' J. G. Baker.
- Lepigonum neglectum** Kindbe.
 1843. Jopling, F. and C., 261. On the shore near Bardsea,
 Aiton. 1885. Baker's Flora, 49. Aiton rep. 'with *L. marginatum*
 Koch, on the shore marshes at Cark and Flookborough,' J. G. Baker.

Lepigonum marginatum Koch. *A. marina*. (? C.F.R., 1629.)

1857. Phytologist, 257. Shore below Humphrey Head, Dr. Windsor. 1874. J. of B., Miss E. Hodgson. School Bank, I. of Walney. Shore at Greenodd. Tridley Marsh, near Ulverston. 1885. Baker's Flora, 49. Dr. Windsor confirmed by J. G. Baker. Miss Hodgson rep. Shore about Cark and Flookborough, J. G. Baker. Grange-over-Sands, W. Mathews. 1892. Naturalist, 83. Foxfield Salt Marsh. Shore, Oyster Ground to Barrow, L. Petty.

Claytonia alsinoides Sims.

1885. Baker's Flora, 53. Hedge-bank at the south end of the village of Sawrey, J. G. Baker.

Montia fontana L.

C.F.R., 1663.

1874. J. of B., Miss E. Hodgson (as *M. rivularis* Gml.) Gillbeck, Ulverston. Ditch at North End, I. of Walney.

Hypericum Androsæmum L.

C.F.R., 1570.

Hypericum maximum Androsæmum vulgare dictum. A. vulgare Park.

1690. Ray, Syn. ed. i., 143. In Lady Holme in Winandermere, Lawson. 1842. Wordsworth, Guide, 23 and 49. About the Ferry, Windermere, 'T. Gough.'¹ 1843. Jopling, F. and C., 260. Near Dalton, and Kirkby (in Furness), Aiton. 1860. Phytologist. Humphrey Head, Dr. Windsor. 1864. Linton, Lake Country, 320. Coniston. 1869. Aspland's Guide. Within six miles of Grange, A. Mason. 1874. J. of B., Miss E. Hodgson. No locality. 1885. Baker's Flora, 56. Aiton rep. Woods at Ulverston, and foot of Coniston Water at Lake Bank, Miss Hodgson.

Hypericum perforatum L.

C.F.R., 1538.

1864. Linton, Lake Country, 320. Common, no locality. 1874. J. of B., Miss E. Hodgson. No locality. 1885. Baker's Flora, 56. 'Ascends from the shore at Flookborough,' J. G. Baker.

Hypericum quadrangulum L.

Aggregate.

C.F.R., 1548.

1874. J. of B., Miss E. Hodgson. No locality.

Hypericum dubium Leers.

C.F.R., 1796.

1874. J. of B., Miss E. Hodgson. Isle of Walney. Lanes near Penny Bridge. 1885. Baker's Flora, 56-7. Miss Hodgson rep. Near Coniston Lake, not frequent, Miss S. Beever. Bushy places, Humphrey Head, F. A. Lees.

¹ Thos. Gough. Born, Middleshaw, Westm., November 30th, 1804; died July 17th, 1880. Of Kendal, Surgeon. Contributed Plant List to Nicholson's 'Annals of Kendal, 1832, pp. 221-225; 'Botanical Notices' in Wordsworth's Scenery, 1842. Wrote also 'Personal Reminiscences of the Habits of Animals,' 'The Heronry of Dalham Tower.' Biographical notice (with portrait) Westmorland Note-book, March 1889, p. 109, and Macpherson's 'Fauna of Lakeland,' 1892, p. xxii et seq.

[*Hypericum tetrapterum* Fries, is included in Miss Hodgson's 'North or Lake Lancashire.' J. of B., 1874. Without locality.]

Hypericum humifusum L. C.F.R., 1632.

1864. Linton, Lake Country, 320. 'Common,' no locality.

1874. J. of B., Miss E. Hodgson. 'Not unfrequent'; no locality.

Hypericum pulchrum L. C.F.R., 1632.

1843. Jopling, F. and C. Old Park Wood, Holker, Wilson. Frequent in woods in High Furness, Aiton. 1864. Linton, Lake Country, 320. 'Common,' no locality. 1874. J. of B., Miss E. Hodgson. No locality.

Hypericum hirsutum L. C.F.R., 1570.

1882. J. of B., 347. Grange and Cartmel, W. F. Miller. 1885. Baker's Flora, 57. Shore of Windermere, near Ferry Inn; hedge-banks between Grange and Lindale; road-side between Grange and Cartmel. 1893. Atkinson's Guide on the authority of unpublished localities, L. P.

Hypericum montanum L. C.F.R., 1640.

1796. Withering, ed. iii., 666. Near Cartmel Wells, Mr. Jackson.¹ Many barren stony places in Furness Fells, Atkinson; and rep. in 1801, Withering, ed. iv., 650-51. 1805. Westm. Antiq., ed. Close, 378. 1812. Withering, ed. v., 818. 1818. Withering, ed. vi., 870. 1830. Withering, ed. vii., 874. 1842. Evans, Furness and Furness Abbey. Atkinson rep. 1843. Jopling, F. and C., 260. Bardsea Park, Aiton. Hagg Wood, Holker, Wilson. 1860. Phytologist. Humphrey Head, Dr. Windsor. 1869. Aspland's Guide. Within six miles of Grange, A. Mason. 1882. J. of B., 347. Grange and Cartmel, W. F. Miller. 1885. Baker's Flora, 57-8. Mr. Jackson rep., confirmed by C. Bailey. Aiton and Wilson repeated. Woods between Grange and Lindale, with *H. hirsutum*, J. G. Baker. 1892. Haviland, Distribution of Disease, 375. No locality. 1893. Atkinson's Guide. Included on the authority of an unpublished locality.

Hypericum Elodes Huds. C.F.R., 1633.

1843. Jopling, F. and C., 260. In Reake mosses, Cartmel, Wilson. 1874. J. of B., Miss E. Hodgson. Boggy marshes in the Isle of Walney. 1885. Baker's Flora, 58. Miss Hodgson rep. Near Rampside in Furness, Miss Beaver.

¹ Rev. Mr. Jackson. Who was he, and where was his cure? There was a Rev. Edw. Jackson, Incumbent of Colton, 1762-1789. The gentleman above mentioned evidently lived in the district, and was a good helper to Withering. See under *Selenium palustre*; and Baker's 'Flora,' 110.

[Althæa officinalis L.

1843. Jopling, F. and C., 260. Near Bardsea and Broughton, Aiton and Wilson. **1885.** Baker's Flora, 55. Aiton and Wilson rep., and 'I suspect a mistake in identification; *Malva sylvestris* probably intended,' J. G. Baker.

NOTE.—I have heard country people call *M. sylvestris* 'marsh mallow,' and was once taken to task for my unbelief. In this way, probably, the mistake arose.—L. P.]

Malva moschata L.

C.F.R., 1597.

1843. Jopling, F. and C., 260. Bank-side, Cartmel, Wilson. Near Bardsea, Aiton. **1861.** Phytologist, 237. Shore below Humphrey Head. p. 238, Allithwaite, C. J. Ashfield. **1864.** Linton, Lake Country, 320. No locality. **1874.** J. of B., Miss E. Hodgson. Many localities, but not common. **1885.** Baker's Flora, 54. Aiton and Ashfield rep. Coniston village, J. G. Baker. Ulverston, Haverthwaite, Cartmel, Miss Hodgson. Banks at Grange and Cark, J. G. Baker.

[Malva alcea L.

1775. Jenkinson, Brit. Plants, 165. In the north of Lancashire plentifully. An error for *M. moschata* ?]

Malva sylvestris L.

C.F.R., 1562.

1861. Phytologist, 238. Allithwaite, C. J. Ashfield. **1864.** Linton, Lake Country, 320. Common, no locality. **1874.** J. of B., Miss E. Hodgson. Less frequently observed than *M. moschata*. **1885.** Baker's Flora, 55. Ashfield rep. Ulverston.

NOTE.—My experience has been that *M. sylvestris* is more equally distributed over North Lancashire than *M. moschata*. In fact, I have seen it in every division, in several localities.—L. P.

Malva rotundifolia L.

C.F.R., 1597.

1861. Phytologist, 238. Allithwaite, C. J. Ashfield. **1885.** Baker's Flora, 55. Ashfield rep. Near a cottage at north end of Cark village; plentiful in a farmyard near the railway, Kent's Bank, J. G. Baker.

Tilia platyphyllos Scop.*T. grandifolia* Ehrh.

C.F.R., 1666.

1885. Baker's Flora, 55. Foot of Gummers' How, Windermere, C. Bailey.

Tilia vulgaris Hayne.*T. intermedia* DC.

1874. J. of B., Miss E. Hodgson, as *intermedia*. No locality. Linton, 1864, as *europæa*. No locality.

Tilia cordata Mill.*T. parvifolia* Ehrh.

C.F.R., 1562.

1885. Baker's Flora. Exposed limestone rocks on Humphrey Head, both east and west faces, C. Bailey. J. G. Baker.

THE YORKSHIRE BOULDER COMMITTEE AND ITS EIGHTH YEAR'S WORK.

THOMAS TATE, F.G.S.,

Leeds; Hon. Sec. to the Yorkshire Boulder Committee.

DURING the year special attention has been given by the Committee to the glacial geology of the hilly country around Barnsley, and they cordially recognise the valuable services of Mr. Hemingway, Old Mill Lane, Barnsley, but for whose labours, extending over several years, many evidences of ice-action in this district would have been irrecoverably lost. The extensive series of personally-collected specimens submitted by him for identification, along with the perforated map accompanying his report, has materially aided the investigation, and lightened the work attempted by this Committee.

A strip of comparatively high ground (200 ft. to 300 ft.) some eight square miles in extent, ranging from Notton and Notton Lane on the north, to the river Dearne at Old Mill and Burton Grange on the south, is, or has been, strewn over with Glacial relics; and there are grounds for believing that two or three square miles lying south of this strip will have to be included before the work is completed.

Much of the Coal shale hereabouts in weathering simulates boulder clay, and care is needed to connect this with the unaltered pebbleless, laminated shale below. A fine section of boulder clay and till, with intercalated lenticular patches of sand, about 40 ft. in thickness, is exposed near Staincross Station, and reappears in the railway siding of the East Gawber Colliery. Old gravel-pits in Lee Lane (250 ft.), and at Carlton Green (220 ft.), and the sewage farm at Burton Grange (140 ft.), together with almost every ploughed field or running stream within this area, have yielded detritus of the ice-sheet. Boulders or pebbles of rocks strange to the locality, having their angles ice-worn, their faces polished, and their surfaces scored with ice-scratches, have been found in plenty by those who cared to look for them. In Royston alone the Honorary Secretary observed on the road-sides, lying in farm-yards, or built into walls, boulders of quartz-felsite from Armboth Fell, quartz-porphry from Threlkeld in the Vale of St. John, diabase, basalt, andesitic ash, and volcanic breccia—all transported from a distance, in addition to a large erratic block of Shap Granite, previously recorded by Prof. A. H. Green, F.R.S. Mr. Hemingway's collection contains boulders of Ennerdale granophyre, Borrowdale plumbago, rhyolite, rhyolitic

breccia, felsitic tuff, olivine basalt, porphyrite, andesitic breccia, vesicular lava, carboniferous limestone, Flamborough flint, and Yorkshire fossiliferous lias—all of which are rocks foreign to the district; many are polished or striated, and so tell their own story. In addition to these are several (Nos. 8, 13, 30, 31, 39) non-British rocks—red and grey granites, gneissose granites, felspar porphyries—having a somewhat Norwegian aspect both in the hand specimens and in microscopic sections; these will require further comparison with parent rocks before they can be finally identified.

Whence came this glacial detritus, and by what route? To the west this area is bounded by higher ground, yielding no trace of glacial débris; east and north-east we have low-lying ground continuous with the valley of the Calder. However, that the glacial drift under consideration is not an offshoot of the Calder Valley deposits recorded last year may be inferred from the absence of Buttermere granophyres, Yewdale breccias, and Eskdale granites, the characteristic rocks of that dispersion. The solitary examples of Ennerdale syenite (14) and of Borrowdale plumbage (47) nevertheless may have been borne down that valley. When traced back to their original sources the evidence of far-transported stones points to the Lake Country as being the centre of dispersion for the ice-drainage of the North of England during the glacial episode. With the exception of the non-British stones, which came by the Scandinavian glacier, all the crystalline rocks recorded have most likely been brought to their present resting-place by the Shap-bearing ice-stream from the north-east corner of the Lake District, by way of Stainmoor and the Yorkshire Lune, to Teesdale, thence, deflected by the Cleveland hills, into the Vale of York, and the low-lying valley (50-100 ft.) traversed by the York and North Midland Railway may indicate the line of further dispersal. If so, we have here a prolongation of the extensive and well-known deposits of that central valley, representing the period of maximum expansion.

The exploration of the glacial geology of the eastern portion of the county, initiated last year by this Committee, is being prosecuted methodically by the East Riding Boulder Committee, under the excellent guidance of their honorary secretary, Mr. J. W. Stather, F.G.S. Several erratics are recorded herewith, and a fuller report may be expected next year.

With a view to stimulate general interest in the preservation of Yorkshire ice-borne relics, the Committee have had one of the Shap granite boulders reported last year (No. 3) removed from Laithkirk, in Lunedale, to the grounds fronting the Yorkshire College, where it is open to public inspection. They thankfully acknowledge the

substantial help given by Mr. Hodsmen, York, in securing and removing this boulder free of cost.

They have also ventured respectfully to suggest to the Committee of the British Association, for the preservation of erratic blocks, that necessary measures be taken for preserving the Royston Boulder (48) by inviting the Mayor and Corporation of Barnsley to secure it for their Public Park.

The following reports have been accepted :—

Reported by Mr. W. HEMINGWAY, Old Mill Lane, Barnsley.

Rocks of local origin are not recorded. (Specimens, numbered as below, have been named by this Committee.)

STAINCROSS STATION.—Three miles north-east of Barnsley : railway cutting in boulder-clay, sands and gravels, 36 ft. thick ; alt. 300 ft. (For section see *Geol. Mem. of Yorkshire Coal Field*, plate 26. *Mackintosh, Proc. Geol. & Polyt. Soc. Yorks.*, 1870, p. 137.

- 31 Grey granite, a small fragment.
- 34 Andesitic ash, 8 × 6 × 6" angular.
- 32 Vesicular lava, longest axis 6" angular.
- 35 Grey felsite (rhyolite), 9 × 8 × 8" angular with striæ.
- 36 Grey encrinital limestone, cuneate slab, almost unworn.
- 37 Lias limestone, *Gryphæa incurva*, etc.
- 38 Fine gneissose granite, small, angular, with smooth faces.
- 33 Magnesian limestone, long axis 6" angular.
- 21 Pure white quartz (from grit), small pebble.

EAST GAWBER COLLIERY.—Railway siding, in a bed of boulder-clay 6 ft. thick and thinning out in every direction, except, perhaps, on the north-east, where it may be continuous with the above Staincross deposit ; alt. 250 ft. :—

- 14 Ennerdale granophyre 25 × 19 × 14" angular, edges rounded, surface smooth, with a few irregular scratches ; direction E. to W., thin end to East, two feet below surface.
- 18 Quartz felsite : Armboth ? 18 × 14 × 12" angular.
- 30 Felspar porphyry, 5 × 4½ × 4" rough, subangular.
- 15 Magma basalt, small angular.
- 17 Porphyrite, 18 × 17½ × 15" rounded.
- 19 Porphyrite, 7 × 6 × 6" rounded.
- 27 Porphyrite, small, rounded.
- 20 Andesitic ash, long axis 14" angular.
- 22 Andesitic breccia, 16 × 12 × 10" angular.
- 23 Andesitic breccia, 14 × 12 × 11½" well rounded.
- 25 Coarse granite, a small fragment.

26 Volcanic ash, $16 \times 12 \times 10$ " well rounded, striæ lengthwise.

28 Gneissose granite, a small fragment.

29 Porphyrite, $12 \times 11\frac{1}{2} \times 9$ " in ploughed field near to siding.

CARLTON.—On surface in lane quarter mile west of church, alt. 250 ft. :—

40 Greenish grey felsite (rhyolite) $21 \times 17 \times 12$ " a broken block, remainder used for road metal.

South of Carlton Church, alt. 240 ft. :—

41 Olivine basalt, small boulder in a matrix of gravel with many erratics, thrown out in digging foundations of a wall.

Wharncliffe Wood-Moor Colliery, alt. 250 ft. :—

39 Gneissose granite, small angular, found in a field near to.

SMITHY GREEN, near Barnsley, alt. 210 ft. :—

24 Grey felsitic tuff longest axis 8" rounded. In drain half mile to north of Smithy Green.

16 Volcanic ash $18 \times 16 \times 15$ " well rounded.

MONK BRETTON, in field north side of Cliffe Wood, alt. 260 ft. :—

49 Volcanic ash? $6 \times 5 \times 5$ " angular.

BURTON GRANGE, sewage farm, alt. 140 ft. :—

50 Diabase, small boulder found in digging foundation for railway bridge. Embedded in gravel, twelve feet below surface.

ROYSTON.—Back Lane facing Peckett's farm house, alt. 260 ft. :—

48 Shap Fell granite $30 \times 30 \times 24$ " angular, formerly used as a horse-block (See *Geol. Mem. of Yorkshire Coal Field*, p. 776).

High Street, near Station Lane end, alt. 258 ft. :—

42 Quartz felsite : Armboth? $34 \times 22 \times 20$ " well rounded.

High Street, half mile west of church, alt. 260 ft. :—

43 Yellow rhyolitic tuff, a large well rounded boulder.

Bye-lane one mile west of church, alt. 260 ft. :—

44 Magma basalt, angular fragment.

45 Rhyolitic breccia, a small boulder.

47 Borrowdale plumbago, angular fragment.

Pinfold Lane, alt. 250 ft. :—

46 Andesitic ash $20 \times 13 \times 10$ " angular, striæ in several directions.

DEARNE VALLEY.—Old Mill Wharfe, alt. 190 ft.—170 ft.

9 Rhyolitic breccia $30 \times 22 \times 18$ " subangular. (Moved to its present position, near the door of the old house in which Mr. Thos. Lister, the Barnsley poet and naturalist, lived when a boy).

- 8 Felspar porphyry, 10 × 9 × 9" globular.
- 13 Felspar porphyry, 8 × 6 × 5" oval.
- 5 Basalt, 8 × 6 × 6" angular.
- 10 Basalt, 6 × 5 × 5" well rounded.
- 11 Basalt, 6 × 5 × 4" well rounded.
- 12 Basalt, 8 × 6 × 6" well rounded.
- 6 Olivine basalt, 9 × 7 × 6" well rounded.
- 4 Carb. limestone, 7 × 5 × 4" well rounded.
- 7 Carb. limestone, 7 × 6 × 5" angular.

Aqueduct, near Old Mill :—

- 1 Basalt, long axis 9" well rounded.
- 2 Basalt, 10 × 6 × 6" well rounded.
- 3 Yorkshire Flint, 8 × 8 × 6" angular, edges well rounded.

NOTE.—The Dearne Valley group, other than No. 9, occur only in proximity to the Aire and Calder Canal and possibly may have been placed there.

Reported by Mr. THOMAS TATE, F.G.S., Leeds.

NOTTON STATION (M.S. & L.).—B.M. 201 ft. :—

- 51 Grey volcanic ash, 48 × 30 × 10" subangular.
- 52 Grey volcanic ash, 32 × 30 × 10" subangular.

Probably one boulder, split in digging trench for water mains.

NOTTON BRIDGE (M.R. Station).—B.M. 223 ft. Collected off ploughed fields : Felsites, limestone chert, black chert, and magnesian limestone.

ROYSTON.—Back Lane, in yard west of Pecketts. B.M. 260 ft. :—

- 53 Quartz felsite, Armboth ? 16 × 13 × 6" subangular.

High Street, south side, alt. 250 ft. :—

- 54 Green volcanic breccia, 33 × 23 × 12" fairly rounded.

High Street, in yard opposite Station Lane end.

B.M. 248 ft. :—

- 55 Quartz felsite Threlkeld, 12 × 9 × 7" subangular.
- 56 Quartz felsite, Threlkeld, 12 × 12 × 6" well rounded.
- Diabase 10 × 9 × 7" well rounded.
- Basalt 7 × 6 × 5" angular, built into wall.

All resting on the Middle Coal Measures.

Reported by Mr. W. GREGSON, F.G.S., Baldersby.

KIRKLINGTON.—N.R. of York, near Ealam House Farm ; alt. 120 ft. :—

Basalt, long axis 23" rounded.

BALDERSBY VILLAGE.—N.R. of York ; alt. 100 ft. :—

Shap Fell granite, 28 × 23 × 22" rounded.

Both resting on Keuper sandstone.

Reported by Mr. J. W. STATHER, F.G.S., Hon. Sec. Hull Geol. Soc.

NORTH CAVE.—Whinstone, $18 \times 12 \times 12''$, water-worn, used as a kerb in street.

MARKET WEIGHTON.—In gravel pit, south of:—

A few small blocks of sandstone (carboniferous?).

BANACKS.—On Bentley Road. Boulder clay resting on chalk in pit, south of:—

Carboniferous sandstones, with fossils.

CHALK VILLA.—Judge's chalk pit, near to, in boulder clay:—

Garnetiferous mica-schist, $6 \times 2 \times 1''$.

Granite, $6 \times 3 \times 2''$.

Whinstone, many small boulders.

Reported by Mr. F. F. WALTON, L.R.C.P., F.G.S., President, Hull Geol. Soc.

NEWBALD CHURCH, road-side, north-west corner:—

Red granite, $13 \times 9 \times 5''$ rounded.

Hard limestone, $15 \times 8 \times 7''$ subangular (five yards N. of above).

SOUTH CAVE, road to Newbald, between old toll house and North Cave Road:—

Limestone, $13\frac{1}{2} \times 8 \times 8''$ rounded.

Reported by Mr. THOS. THELWALL, Hull.

SKIDBY and LITTLE WEIGHTON district:—

Whinstone, several blocks from $26 \times 18 \times 16''$ to $18 \times 16 \times 16''$. Used by farmers for horse-blocks or similar purposes.

Reported by Mr. W. N. CROFTS, Hull.

COTTINGHAM, corner of Park Lane and Northgate, street kerbs:—

Whinstone, $24 \times 20 \times 18''$ subangular.

W. side of Park Lane, 200 yards N. of above:—

Whinstone, $32 \times 37 \times 14''$ flat, top surface well striated.

Weigh-house yard, King Street:—

Whinstone, $24 \times 24 \times 18''$ subangular.

DUNSWELL LANE, near gate of Clayhill Cottage:—

Whinstone, $42 \times 42 \times 24''$ subangular.

Reported by Mr. J. NICHOLSON, Hull.

SWINE.—Group in field N.W. of church:—

Whinstone, $48 \times 30 \times 24''$ subangular.

Millstone grit, $36 \times 27 \times 24''$ rounded.

Carb. limestone, $30 \times 30 \times 24''$ angular.

Carb. limestone, $30 \times 24 \times 18''$ subangular

Carb. limestone, $30 \times 18 \times 12''$ subangular.

Carb. limestone, $30 \times 24 \times 12''$ rounded angles.

Carb. limestone fossils, $30 \times 24 \times 12''$ rounded.

Whinstone, $24 \times 24 \times 18''$ angular.

Whinstone, $24 \times 24 \times 12''$ rounded angles.

Whinstone, $18 \times 18 \times 18''$ subangular.

NOTE.—The above group is believed to have been stepping-stones before the land was drained.

Reported by Mr. H. ROBINSON, Hull.

SUTTON-ON-HULL.—Stile stepping-stone near school and railway station :—

Limestone, $48 \times 24 \times 18''$.

On footpath to Swine :—

Basalt, $12 \times 12 \times 9''$.

Nearly opposite school in a hall gate-way :—

Limestone (carb. ?), $24 \times 12 \times \text{—}$.

Basalt, $24 \times 12 \times \text{—}$.

Front of blacksmith's shop :—

Lias limestone, *Gryphæa*, etc., $30 \times 18 \times \text{—}$.

On main street, at end of Hull footpath :—

Carb. limestone, $14 \times 12 \times 12''$.

Basalt, $15 \times 12'' \times \text{—}$.

Granite, $36 \times 30 \times 18''$.

In lane at right angles to main street :—

Basalt, $18 \times 12 \times 12''$.

Limestone, $18 \times 12 \times 12''$.

Group as corner protectors, near Stoneferry finger-post, a few yards from railway station :—

Dark basalt, $36 \times 18 \times 18''$ and four smaller.

Limestone.

NOTE.—The larger boulders occur as door steps, buttresses for corners of buildings, stile stones, etc. Very many small cobbles have been used for paving stones. The fields around this village are singularly free from such stones. Have they been gathered off and utilised as above, or have they been brought from the coast ?

NOTE—FUNGI.

North Lincolnshire Fungi.—I give a list of fungi found in North Lincolnshire in August 1894, and not recorded in Lees' 'Botany and Outline Flora' :—

Tricholoma sordidus.

Clitocybe dealbatus.

Volvaria parvulus.

} Field at Whitton.

Pholiota mutabilis. Broughton Wood.

Neucoria pediades. Field at Whitton.

Russula integra. Broughton Wood.

—WILLIAM FOWLER, Liversedge Vicarage, September 5th, 1894.

Oct. 1894.

NOTE—MAMMALIA.

Albinisms of the Hare near Horncastle.—When the Lincolnshire Naturalists' Union, visited Woodhall Spa last year, one of the party (I think Mr. W. F. Baker) remarked to me that the neighbourhood of Horncastle was noted for its white Hares. It is true that, some 30 or more years ago, a white Hare (*Lepus timidus*) was seen in this parish, on my father's land. I made attempts to get it, but it was eventually shot in an adjoining parish. Since then I am not aware of any other having been seen. I have occasionally shot a hare with white face, and so forth; and have a specimen stuffed, with white face and fore legs. Within the last few days, however, as some corn was being cut by a reaping machine, the labourers captured a white leveret, three-quarters grown; and Mr. Leedale, the tenant, is having it stuffed. This occurred in the adjoining parish of Woodhall, but within a mile of where the former specimen was seen. This looks like an interesting case of 'heredity'; the recurrence of a former type of animal, after an interval of so many years. I report it, as it may possibly interest some readers of 'The Naturalist' or some of them may be able to record similar cases.—J. CONWAY WALTER, Langton Rectory, Horncastle, Sept. 7th, 1894.

NOTES AND NEWS.

We have been much interested in a paper by Mr. Arnold T. Watson, 'On the Habits of the Amphictenidæ,' which was published in the July number of the Annals and Magazine of Natural History, and in which he explains the object and use of the comb-like head bristles, and gives particulars of the hitherto unknown habits of these marine annelids, unknown in spite of the empty tubes of *Pectinaria* or *Lagis* abounding on almost every sandy shore, and being known to most sea-side visitors.

Miss Jane Donald, of 21, Ridgway Place, Wimbledon, whose name will be familiar to many of our readers by reason of the good work she has done in the study of the fossil mollusca, is at present studying the genus *Murchisonia*, and would be glad if readers of 'The Naturalist' would inform her of any private collections containing specimens of this genus that she has not seen. She is especially anxious to see any examples from Todmorden, as she has met with a single very interesting form from that locality, and would like to examine more of it, if possible. A reprint of a paper from her pen entitled, 'Notes on some New and Little-known Species of Carboniferous *Murchisonia*' with a couple of plates, which appeared in the Quarterly Journal of the Geological Society for November 1892, which lies before us, shows that she has already been able to study the genus to some purpose, and we trust that all readers who have it in their power will give the assistance she desires.

We have received a little book with two pages of title. The first is: 'What's in a Name? or, By Commander Scott Willcox, R.N.'; and the second reads as follows: 'The Egg Collector's Handy Dictionary of Reference for Curious Local Names of our British Birds, containing more than 1,000 Curious Local Names; together with the Generally Accepted Names and the Scientific Names of our British Birds.—To which are added Lists of those Birds which occasionally Nest with us, and whose Eggs are rare; and also of those Birds who are only Winter Visitors and have never been known to Breed in the United Kingdom, and whose Eggs are very rare.—By Commander Scott Willcox, R.N., "Rangitoto," Shaftesbury Road, Southsea. One Shilling (bound in cloth); post free, 1/3. In Paper Covers, Sixpence; post free, 7½d.—1894. Printed and Published by Holbrook & Son, 154-155, Queen Street, Portsmouth.' This lengthy title makes it superfluous to describe what the book consists of, and we would only add that the three lists are arranged in the alphabetical order of the local names, and that to our regret the author contents himself with merely giving the local names without adding (what every one will look for) an indication of the districts in which they are used.

BIBLIOGRAPHY:

Papers and Records published with respect to the Natural History and Physical Features of the North of England.

LEPIDOPTERA, 1891.

THE present instalment is compiled and edited by

W. DENISON ROEBUCK, F.L.S.

The previous instalments of the Bibliography of Lepidoptera were published as follows:—For 1884, in Nat. for July and Aug., 1885, pp. 285-292; for 1885, 1886, and 1887, in Nat. for Feb. and March 1888, pp. 58-78; for 1888, in Nat. for Sep. and Oct. 1890, pp. 279-299; for 1889, in Nat. for May and June 1891, pp. 157-165; for 1860, in Nat. for June 1893, pp. 177-202.

The counties and vice-counties of which cognizance is taken are the following, as named and numbered in the Watsonian scheme:—

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; 70, Cumberland; and 71, Isle of Man.

ANON. [not signed].

Linc. S.

Newspaper Entomology [being a paragraph cut from the Spalding Free Press of March 3rd, 1891, concerning the 'Remarkable discovery of a live butterfly, 3,000 years old,' in a peat-bed at Crowland, beneath a layer of gravel 20 feet thick; the butterfly is stated to be the Peacock (*Vanessa io*); the argumentation and explanation are amusing]. E.M.M., Apl. 1891, p. 108.

ANON. [signed 'Grimsby News'].

Linc. S.

Extraordinary Entomological Discovery [by Mr. A. S. Canham, who found a *Vanessa io* living in a peat bed at Crowland, beneath 20 feet thickness of gravel; explanation suggested]. Sci. Goss., May 1891, p. 118.

ANON. [not signed].

Isle of Man.

Phenological Observations [made in the Isle of Man; dates given for *Argynnis adippe*, *Arctia caja*, and Dark Sword-grass Moth (*Agrotis suffusa*)]. Yn Lioar Manninagh, July 1890, p. 177.

ANON. [signed 'J. A.'].

Northumberland S.

Obituary [of Edward Ralph Pearson, mentioning his Wallington examples of *Sphinx convolvuli*, *Thyatira batis*, *Plusia bractea*, and *Vanessa antiopa*]. Ent., Aug. 1891, p. 200.

P. W. ABBOTT.

Cheshire.

[Exhibition of Wallasey examples of *Teniocampa opina*, *T. gracilis*, and *Nyssia zonaria*]. Birm. Ent. Soc., Sep. 21st, 1891; E.M.M., Nov. 1891, p. 309; Ent., Nov. 1891, p. 276.

[R.] ADKIN.

Isle of Man, Lanc. W.

[Remarkably Pale Series of *Peronea hastiana* bred from Manx larvae exhibited; very like some from Deal, but very unlike those from St. Anne's-on-Sea]. South Lond. Ent. Soc., Dec. 11th, 1890; Ent. Rec., Jan. 15th, 1891, p. 292; E.M.M., Feb. 1891, p. 53; Brit. Nat., Jan. 1891, p. 13.

Oct. 1894.

- R. ADKIN. Yorkshire, Isle of Man.
 [Long and interesting series of *Triphæna orbona* from Yorkshire, Isle of Man, etc., exhibited]. Ent. Soc. Lond., March 4th, 1891, publ. June 1891, p. vii.; Ent. Record, March 16th, 1891, p. 352; E.M.M., April 1891, p. 115; Ent., April 1891, p. 101; Brit. Nat., April 1891, p. 85; Zool., April 1891, p. 160.
- R. ADKIN. Isle of Man.
 [*Larentia didymata* Tr. from Isle of Man, exhibited]. South Lond. Ent. Soc., June 11th, 1891; Ent., July 1891, p. 176.
- R. ADKIN. Isle of Man.
 [Exhibition of Isle of Man Examples of *Sesia musciformis* View., which are more robust than Cornish ones]. South Lond. Ent. Soc., Oct. 8th, 1891; Ent. Rec., Oct. 15th, 1891, p. 239; Ent., Nov. 1891, p. 274; Brit. Nat., Nov. 1891, p. 234.
- E. G. ALDERSON. Notts.
 The Season in North Notts. [in Clumber Park; *Hepialus velleda* abundant, var. *carnus*, *H. lupulinus*, *H. humuli*, *H. hectus*, *Argynnis adippe*, *Satyrus janira*, *Pieris*, *Vanessa urticæ*, *V. polychloros* (uncertain), one *V. io*, and no *Lycæna ægon*, *Argynnis selene*, *A. euphrosyne*, *Epinephile hyperanthus*, *Vanessa atalanta*, *Colias edusa* and *Gonepteryx rhamni*, all of which occur other seasons; *Aplecta nebulosa*, *Euplexia lucipara*, *Agrotis porphyrea*, *Ellopiæ fasciaria*, *Plusia iota*, *Acronycta psi*, *Polia chi*, one *Agrotis ravidæ*, *Xylophasia polyodon*, *Triphæna orbona*, *Melanippe ocellata*, *Charæas graminis*, *Gonophora derasa*, *Noctua festiva*, *Agrotis segetum*, *Mamestra furva*, *Phlogophora meticulosa*, *Hadena dentina*, *Acronycta rumicis*, *Cosmia trapezina*, *Mania typica*, *Cidaria fulvata* common, *Boarmia rhomboidaria*, *Rumia*, *Urapteryx*, and *Bupalus piniarius* all abundant, *Euchelia jacobææ*, absence of *Euthemonia russula*, *Euclidia mi*, and *Epione apiciaria*, presence of *Venilia*, *Metrocampe margaritata*, *Eurymene dolabraria*, reappearance of *Abraxas ulmata*, and capture of *Smerinthus populi*, *Platypteryx falcula*, *Euperia fulvago*, *Odontopera* and *Tephrosia crepuscularia*]. Ent., Dec. 1891, pp. 302-303.
- J. ARKLE. Cheshire.
 Captures at Gas-lamps [at Chester, Jan. 23rd to Feb. 10th; *Cheimatobia brumata*, *Pacilocampa populi*, *Asteroscopus sphinx* (*cassinea*), *Phigalia*, *Hybernia rupicapraria*, *H. progemma*, and *H. defoliaria* noted as taken or as quite absent]. Ent., April 1891, p. 99.
- J. ARKLE. Cheshire.
 Early Spring Notes . . . Chester [various *Taniocampa*, *Selenia illustraria*, *Hybernia progemma*, and *Anticlea badiata* noted]. Ent. Record, May 15th, 1891, p. 39.
- J. ARKLE. Cheshire.
 Notes on Spring Lepidoptera in the Chester District [mentioning *Hybernia rupicapraria*, *H. progemma*, *H. defoliaria*, *Nyssia hispidaria* (Delamere Forest), *Anisopteryx æscularia*, *Hyb. leucophæaria*, *Asphalia flavicornis*, *Taniocampa gothica*, *T. stabilis*, *T. cruda*, *T. gracilis*, *T. instabilis*, *T. opima*, *Selenia illunaria*, *Anticlea badiata*, *Cidaria suffumata*, *Nyssia zonaria*, *Arctia caja*, and *Pieris rapæ*, with details of collecting]. Ent., June 1891, pp. 143-145.
- J. ARKLE. ? Cheshire.
 Larvæ of *Eubolia limitata* (*mensuraria*) and *Plusia pulchrina* [presumably near Chester]. Ent., Aug. 1891, p. 194.
- J. ARKLE. Cheshire, Durham, Northumberland, Yorkshire, Lincs.
 The Diamond-Back Moth (*Plutella cruciferarum*) [a full and detailed account of its life-history, its ravages in Cheshire, Northumberland, Durham, Yorkshire, Lincolnshire, etc., and suggestions as to remedial measures]. Ent., Nov. 1891, pp. 256-260.

- J. ARKLE. Cheshire.
Notes from Cheshire [anent *Ematurga atomaria*, *Bupalus piniarius*, *Melanthia ocellata*, *Melanippe subtristata*, *Cabera pusaria*, *C. exanthemata*, *Panagra petrarica*, *Macaria liturata*, *Thera variata* var. *obeliscata*, *Hylophila prasinana*, and *Tephrosia biundularia* var. *delameriensis* at Delamere Forest, *Emmelesia decolorata*, *Eupithecia venosata*, *Dianthæcia carpophaga* and *D. cucubali* on the Sealand (within three miles of Chester), *Smerinthus ocellatus*, *S. populi*, *Dicranura furcula*, *D. bifida*, and *D. vinula* close to Chester, *Cidaria populata*, *Xanthosetia hamana*, *Acronycta leporina*, *A. psi*, and *Teniocampa stabilis* at Delamere Forest, *Ephippiphora ephippiana* at Caughall Lane, *Lophopteryx camelina*, *Drepana jalcula*, *Notodonta dromedarius*, *Dasychira pudibunda*, and *Amphidasys betularia* at Delamere Forest, *Hadena adusta*, *H. rumicis*, *H. pisi*, *Nemeophila russula*, *Cidaria testata*, and *Crambus margaritellus* on Hatchmere Moss, *Orgyia antiqua* a pest in Grosvenor Park, Chester, *Acronycta alni* at Chester, *Ennomos tiliaria*, *Cidaria russata*, and vars. *perfuscata* and *immanata*, *Crocallis*, *Geometra papilionaria*, *Noctua rubi*, *Neuronia popularis*, *Triphæna ianthina*, and *Hydracia micacea* all at gas-lamps at Chester, *Pieris brassicæ*, *Epinephile tithonus*, *Chrysophanus phlæas*, *Lycæna icarus*, *Vanessa urticæ*, *V. io*, and *V. atalanta* at Chester, *Miselia oxyacanthæ*, *Himera pennaria*, *Diloba ceruleocephala*, *Petasia cassinea*, *Cosmia pyralina*, *Cheimatobia brumata*, *Hybernia defoliaria*, *Oporabia dilutata*, and *Anchocelis pistacina* at Chester gas-lamps]. Ent., Dec. 1891, pp. 286-290.
- [H. A.] AULD. Lanc. S.
[Exhibition of a drawing of a Variety of *Abraxas grossulariata* from Liverpool]. South Lond. Ent. Soc., Feb. 12th, 1891; Ent. Record, March 16th, 1891, p. 354.
- EUSTACE R. BANKES. Yorkshire, Cheshire.
Homœosoma saxicola*, Vaughan, as a var. of *H. nimbella [discussed; and quoting Ragonot's statement of his possessing Yorkshire and Cheshire examples of *H. nimbella*]. Ent. Record, June 1st, 1891, p. 57.
- EUSTACE R. BANKES. Yorkshire, Westmorland.
Note on *Nepticula tormentillella*, H.-S. [and its occurrence in Yorkshire and Westmorland]. E.M.M., July 1891, p. 196.
- W. B. BARBER. York S.W. and N.E.
York, Bootham. Natural History, &c., Club [Common Sallow Moth (*Xanthia cerago*) and Orange Sallow Moth (*X. citrigo*) near Sheffield, and *Vanessa urticæ* near York]. N.H.J., May 15th, 1890, p. 75.
- W. B. BARBER. York N.E.
[Water Ermine (*Arctia urticæ*) in York, 3rd June; Wood Tiger (*Nemeophila plantaginis*) in Bedale near Scarborough, 12th June]. N.H.J., Nov. 15th, 1890, p. 151.
- W. B. BARBER. York S.W.
[Winter Moths (*Cheimatobia brumata*) Frozen into Ice and still alive, also a December Moth (*Pacilocampa populi*) near Sheffield]. N.H.J., March 15th, 1891, p. 36.
- W. B. BARBER. York N.E.
[Pale Brindled Beauty (*Phigalia pilosaria*) at Bootham, York]. N.H.J., April 15th, 1891, p. 53.
- W. B. BARBER. York S.W.
[Pale Brindled Beauty (*Phigalia pilosaria*) and Scarce Umber (*Hybernia aurantiaria*) at Abbeydale]. N.H.J., May 15th, 1891, p. 71.
- W. B. BARBER. York S.W.
[At Abbeydale, Sheffield, Golden Y's (? *Plusia iota*)]. N.H.J., Oct. 15th, 1891, p. 129.

REGINALD H. BARKER.

York N.E.

Larentia ruficinctata near Scarborough [found July 16th, 1891, on Hutton Buscel Moor; *L. cæsiata* 'not uncommon here']. Nat., Sep. 1891, p. 277.

C. G. BARRETT.

Cheshire.

[Exhibition of five Melanic *Aplecta nebulosa*, bred from Delamere Forest larvæ by J. Collins, and named by him as var. *robsoni* in Proc. Lanc. and Chesh. Ent. Soc.]. Proc. Ent. Soc. Lond., Nov. 4th, 1891, publ. Dec. 1891, p. xxvi; Ent. Rec., Nov. 15th, 1891, p. 259; E.M.M., Dec. 1891, p. 335; Brit. Nat., Dec. 1891, p. 269; Ent., Dec. 1891, p. 305; Zool., Dec. 1891, p. 475; also South Lond. Ent. Soc., 12th Nov. 1891; Ent., Dec. 1891, p. 306; Brit. Nat., Dec. 1891, p. 271.

CHAS. G. BARRETT.

Cheshire.

Melanic Variety of *Aplecta nebulosa*, Tr. [taken by J. Collins in Delamere Forest; described, and named var. *robsoni*]. Ent. Mo. Mag., Dec. 1891, p. 330.

C. G. BARRETT.

York S.W., Lanc. S.

[Exhibition of *Aplecta nebulosa* var. *robsoni* for Warrington, whereupon R. South remarked breeding one similar from Rotherham larvæ]. Ent. Record, Dec. 15th, 1891, p. 302.

H. BAXTER.

Lanc. W.

Notes of the Season (Lepidoptera) . . . **St. Anne's-on-Sea** [*Teniocampa gracilis*, *T. opima*, *T. gothica*, *T. rubricosa*, *Orgyia fascelina* and *Leucania littoralis* noted as captured]. Ent. Record, Aug. 15th, 1891, p. 134. [Larvæ of *Orgyia fascelina* and *Leucania littoralis*; *Acronycta rumicis*, *Miana fasciuncula*, *M. strigilis* var. *æthiops*, *Mamestra albicolon*, *Agrotis corticea*, *Leucania comma*, *Hadena adusta*, *Gelechia temerella*, *G. sororculella*, *G. artemisiella*, *G. marmorea*, *G. umbrosella*, *G. mundella*, *Tinea imella*, *Depressaria contaminella*, *D. assimilella*, *G. desertelia*, very red *Triphena orbona*, *T. pronuba*, and *Dep. literella* noted]. Ent. Record, Sep. 1st, 1891, p. 159.

HOLMES BAXTER.

Lanc. W.

Notes of the Season . . . **St. Anne's-on-the-Sea** [*Peronea hastiana*, *Gracilaria stramineella*, *Depressaria ocellana*, *D. yeatiella*, *D. heracleana*, *D. subpropinquella*, *D. arenella*, *D. nanatella*, *D. nervosa*, *Ephippiphora populana*, *Choreutes scintillulana*, *Gelechia temerella*, *G. sororculella*, *Neuria popularis*, *Luperina cespitis*, *L. testacea*, *Platyptilia gonodactyla*, and *Acherontia atropes* noted as taken]. Ent. Record, Nov. 15th, 1891, p. 253.

T. BAXTER.

Lanc. W.

Peronea hastiana [and one very like *P. comparana*, on the sand-hills, St. Anne's-on-Sea]. Ent. Record, March 16th, 1891, p. 343.

T. BAXTER.

Lanc. W.

Notes of the Season . . . **St. Anne's-on-Sea** [mentioning the capture of *Teniocampa gracilis*, *T. gothica*, *T. opima*, *T. instabilis*, *T. rubricosa*, *T. stabilis*, *Calocampa exoleta*, *Agrotis suffusa* (all at Sallows), *Acronycta rumicis* (common), *Hadena adusta*, *H. dentina*, *H. pisi*, *Acr. psi*, *Leucania comma*, *Miana strigilis*, *M. fasciuncula*, *Grammesia trilinea*, *Mamestra albicolon*, *M. brassicæ*, *Apamea gemina*, *Ap. basilinea*, *Heliothis marginatus* (2), *Noctua festiva*, *N. plecta*, *Agrotis exclamationis*, *Mamestra serdida*, *Euplexia lucipara*, *Rusina tenebrosa*, *Agrotis corticea*, and *Tinea imella*; detailed notes on the two *Miane*]. Ent. Record, Oct. 1st, 1891, p. 204.

T. BAXTER.

Lanc. W.

Notes of the Season . . . **St. Anne's-on-Sea** [with mention of *Agrotis cursoria* (early date), *Depressaria nanatella*, *Peronea aspersana*, *Eupacilia vectisana*, *Sericoris littorana*, *Gelechia mulinella*, *G. instabilella*, *G. mouffetella*, *Sericoris conchana*, *S. lacunana*, *S. urticana*, *Sciaphila subjectana*, *Harpipteryx harpella*, *H. nemorella*, *Depressaria costosa*, *D. liturella*, *Swammerdamia*

pyrella, *Ebulea crocealis*, *Hydrocampa stagnalis*, *Botys fuscalis*, *Lithocolletis ulicicolella*, *Cidaria fulvata*, *Laurentia didymata*, *Coremia unidentata*, *C. ferrugata*, *Melanippe sociata*, *M. montanata*, *Hypsipetes elutata*, *Abraxas grossulariata*, *Oedematophorus lithodactylus*, *Hesperia sylvanus*, *Liparis chrysorrhoea*, *Satyrus tithonus*, *Pieris napi*, *P. brassicae*, *Dianthecia cucubali*, *Eriogaster lanestris*, and *Ephippiphora scutulana*, some localised for Poulton, Cleorleys and Wyre Banks]. Ent. Record, Oct. 15th, 1891, p. 229.

T. BAXTER.

Lanc. W.

Notes of the Season . . . St. Anne's-on-Sea [anent *Agrotis cursoria*, *A. praecox*, *A. aquilina*, *Gelechia terrella*, *Coleophora artemisiella* at St. Anne's, *Cidaria populata*, *Paedisca occultana*, *Grapholitha geminana*, *Penthina sauciana*, *Peronea caledoniana*, and *Tortrix viburnana* on the moors at Longridge, near Preston; *Coleophora tripoliella*, *Peronea schalleriana*, *Eupecilia vectisana*, *Crambus saline'llus* and *Gelechia instabilella* at the Salt Marsh at Fleetwood; also *Hydracca nictitans* being abundant, *H. micacea* an absentee, *Peronea hastiana* very scarce, and *Anchocelis litura*, *A. lunosa*, and *Orthosia lota* not yet out at St. Anne's]. Ent. Rec., Dec. 15th, 1891, p. 287.

L. BIGLAND.

Lake District.

[Lake District Captures; Small Ringlet (*Erebia epiphron*) and Broad-bordered Bee Hawk Moth (*Macroglossa fuciformis*)]. N.H.J., Nov. 15th, 1891, p. 145.

GEORGE A. BOOTH.

Furness.

Notes of the Season of 1890 (Lepidoptera) . . . Grange-over-Sands [*Pacilocampa populi* and *Cheimatobia brumata* noted]. Ent. Record, March 16th, 1891, p. 334.

G. A. BOOTH.

Furness.

Sphinx convolvuli in 1891 . . . Lancashire [i.e. Furness; several at Grange-over-Sands]. Ent., Dec. 1891, p. 297.

L. S. BRADY.

Durham.

Sp[h]inx convolvuli at Sunderland [one taken at electric light two years ago]. Brit. Nat., Jan. 1891, p. 8.

L. S. BRADY.

Durham.

At the Sallows [near Sunderland and at Castle Eden Dene, *Teniocampa gothica*, *T. rubricosa*, *T. gracilis*, *Anticlea badiata*, *T. stabilis*, *Xylocampa lithoriza*, and *Diurnea sagella*]. Brit. Nat., June 1891, p. 135.

WM. E. BRADY.

York S.W.

Sphinx convolvuli at Barnsley [one Aug. 29th, 1891; first since ten were taken in 1887]. Nat., Oct. 1891, p. 309.

C. A. BRIGGS.

Yorkshire.

[Exhibition of a Yorkshire specimen of *Pieris brassicae* with one antenna much smaller than the other, although fully developed]. Ent., Aug. 1891, p. 198.

W. BROOKS.

York S.W.

Phigalia pilosaria [bred in quantity near Sheffield, noting differences in times of hatching of eggs from different females]. Brit. Nat., Aug. 1891, p. 180.

[F. J.] BUCKELL.

Lanc. S.

[Exhibition of *Strenia clathrata* from Leigh with the ground colour golden yellow, and of *Hesperia lineola* from same locality with the left fore-wing about two-thirds the size of the right]. City of Lond. Ent. Soc., Sep. 3rd, 1891; Ent. Record, Sep. 15th, 1891, p. 190.

[F. J.] BUCKELL.

'York.'

[Exhibition of a variable series of *Orthosia suspecta* from York]. City of Lond. Ent. Soc., Oct. 1st, 1891; Ent. Rec., Oct. 15th, 1891, p. 238.

- [F. J.] BUCKELL. 'York.'
 [Exhibition of a variable series of *Lycæna alexis* from York]. City of Lond. Ent. Soc., Oct. 1st, 1891; Brit. Nat., Nov. 1891, p. 235.
- [F. J.] BUCKELL. 'York.'
 [Exhibition of *Noctua festiva* from York]. City of Lond. Ent. Soc., Oct. 15th, 1891; Brit. Nat., Nov. 1891, p. 236; Ent. Rec., Nov. 15th, 1891, p. 260.
- [F. J.] BUCKELL. Durham.
 [Exhibition of *Luperina testacea* vars. *cinerea* and *nigrescens* Tutt, *Apamea basilinea*, greyer than the London form, and *Hadena pisi* of a greyish ground colour, all from Hartlepool]. City of Lond. Ent. Soc., Nov. 5th, 1891; Ent. Record, Nov. 15th, 1891, p. 263.
- S. J. CAPPER. Lanc. S.
 President's Address [to Lanc. and Chesh. Ent. Soc., noting *Lithosia sericea* taken near Manchester by Mr. Collins]. 14th Rep. Lanc. and Chesh. Ent. Soc., Session 1890, publ. 1891, p. 10.
- JOHN T. CARRINGTON. York S.E., Durham, Northumberland.
 The Diamond-Back Moth (*Plutella cruciferarum*) [treated of in detail; ravages greatest during July 1891 in East Yorkshire, Durham, and Northumberland]. Field, Aug. 8th, 1891, p. 243.
- C. CHAPMAN. York Mid W.
Sphinx convolvuli at Ripon [one on 25th Sep., 1891; fourth record for neighbourhood]. Nat., Nov. 1891, p. 338; Ent., Nov. 1891, p. 268.
- H. S. CLARKE. Isle of Man.
Sphinx convolvuli [at the Tower, Douglas Head, Aug. 22nd, 1889; particulars given]. Yn Lioar Manninagh, Oct. 1889, p. 109.
- H. SHORTRIDGE CLARKE. Isle of Man.
 Entomological Section [of Isle of Man N.H.S.] (Report for 1890.) [giving detailed records of the occurrence of about 60 or 70 species of Lepidoptera in the island, by various collectors]. Yn Lioar Manninagh, Ap.-Oct. 1891, pp. 265-9.
- HENRY SHORTRIDGE CLARKE. Isle of Man.
 [List of] The Heterocera of the Isle of Man [enumerating 39 Sphingæ and Bombyces and 12 Geometræ]. Yn Lioar Manninagh, Ap.-Oct., 1891, pp. 287-9; and Brit. Nat., Sep. 1891, pp. 187-189. [66 species of Geometræ catalogued]. Brit. Nat., Oct. 1891, pp. 209-212.
- H. SHORTRIDGE CLARKE. Isle of Man.
Sphinx convolvuli in the Isle of Man [a male taken 25th Aug. 1891]. Ent. Record, Oct. 1st, 1891, p. 213.
- H. SHORTRIDGE CLARKE. Isle of Man.
 Notes of the Season . . . Isle of Man [mentioning, with localities, the capture of *Gonoptera libatrix*, *Fidonia piniaria*, *Amphidasys betularia*, *Dianthæcia casia*, *D. capsophila*, *D. capsincola*, *Sesia philanthiformis*, *Pieris rapæ*, *P. napi*, *Vanessa urtica*, *Pararge megera*, *Satyrus semele*, *Epinephile janira*, *Cænonympha pamphilus*, *Polyommatus phloxas*, *Lycæna alexis*, *Xylophasia polyodon*, *Miana strigilis*, *Triphæna janthina*, *T. orbona*, *T. pronuba*, *Mania typica*, *Hadena oleracea*, and *Cirrhædia xerampelina*]. Ent. Record, Oct. 1st, 1891, p. 207.
- H. SHORTRIDGE CLARKE. Isle of Man.
Acherontia atropos in the Isle of Man [caught in Laxey Glen, Oct. 22nd, 1891]. Ent. Record, Dec. 15th, 1891, p. 295.

- JOS. COLLINS. Cheshire.
Tryphæna orbona [at Delamere Forest; black forms of larvæ noted].
 Brit. Nat., Jan. 1891, p. 9.
- J. COLLINS. Lanc. S., Ches., York S.W. and N.E.
Notodonta dromedarius var. *perfusca* [at Warrington; Editor adds note
 on its occurrence also at Barnsley, and as var. *dromedarulus* at Scarborough
 and Liverpool]. Ent. Record, Jan. 15th, 1891, p. 282.
- J. COLLINS. Cheshire.
Notes of the Season [Lepidoptera] . . . Warrington [at Sallow
Tæniocampa gracilis, *T. rubricosa*, *T. instabilis*, *Calocampa exoleta*, and
Scotosia dubitata (locality uncertain), and of larvæ at Delamere Forest
Triphæna fimbria, *Noctua brunnea*, *N. triangulum*, *Leucania lithargyria*,
Aplecta nebulosa, *Ellopiæ fasciaria*, *Thera variata*, and *Trachea piniperda*
 noted]. Ent. Record, June 15th, 1891, p. 86.
- J. COLLINS. Lanc. S. or Chesh.
Uncertain appearance of certain Lepidoptera [*Plusia festucæ* abundant
 20 years ago in the Warrington district, very scarce now, from agricultural
 improvements]. Ent. Record, June 15th, 1891, p. 89.
- J. COLLINS. Cheshire.
Leucania lithargyria var. [described; bred from a larva collected at
 Delamere Forest; also a black var. of *Aplecta nebulosa*, same locality].
 Brit. Nat., July 1891, p. 152.
- J. COLLINS. ? Lanc. S. or Cheshire.
Captures at Warrington ['on our mosses' (where are they?) July 11th,
 1891; *Chortobius davus*, *Euthemonia russula*, *Aspilates strigilaria*, *Agrotis*
porphyrea, and *Acronycta rumicis*]. Brit. Nat., Aug. 1891, p. 178.
- J. COLLINS. Lanc. S. or Cheshire.
Notes of the Season . . . Warrington [anent *Lophopteryx camelina*,
Notodonta dromedarius, *N. ziczac*, *N. dictæa*, *N. dictæoides*, *Acronycta*
leporina, *Acr. megacephala*, *A. menyanthidis*, *Saturnia carpini*, *Amphidasys*
betularia, *Trachea piniperda*, *Smerinthus ocellatus*, and *S. populi*]. Ent.
 Rec., Oct. 15th, 1891, p. 233.
- J. COLLINS. Cheshire.
A few remarks on Aplecta nebulosa [bringing forward a new melanic
 variety, *robsoni*, from Delamere Forest]. Lanc. and Chesh. Ent. Soc.,
 Oct. 12th, 1891; Brit. Nat., Nov. 1891, p. 23; Ent. Record, Nov. 15th,
 1891, p. 264.
- J. COLLINS. Cheshire.
[Melanic form of Aplecta nebulosa from Delamere named var. robsoni;
 five exhibited]. Lanc. and Chesh. Ent. Soc., Oct. 12th, 1891; Ent., Nov.
 1891, p. 276; E.M.M., Nov. 1891, p. 309.
- HERBERT H. CORBETT. York S.W.
[Fifty] Additions to the Yorkshire List of Lepidoptera for the Doncaster
 District [with localities; three, *Semasia ianthinana*, *Gelechia albiceps*, and
Laverna raschkiella, are new for Yorkshire]. Nat., Jan. 1891, pp. 1-2.
- H. H. CORBETT. York S.W.
Notes on Lepidoptera in Doncaster and District [for February 1891;
Hybernia aurantiaria, *H. defoliaria*, *Cheimatobia brumata*, *Phigalia*, *H.*
leucophæaria, *Anisopteryx*, *Nepticula aurella*, *Taleporia pseudobombycella*,
Depressaria applanata, *H. progemma*, and *Lithocolletis canella* observed;
 variation of *H. leucophæaria* described]. Brit. Nat., April 1891, pp. 75-76.
- H. H. CORBETT. York S.W.
Hybernia leucophæaria var. *nigricaria* at Doncaster [described; remarks
 by G. T. Porritt appended]. Nat., May 1891, p. 155.

H. H. CORBETT.

York S.W.

Lepidoptera from Doncaster [noted chronologically; *Hybernia leucophæaria* var. *nigricaria*, new for Yorkshire; *Diurnea fagella*, *Tortricodes hyemana*, *Micropteryx unimaculella*, *M. purpurella*, *Brephos parthenias*, *Semioscopus avellanella* and *Cymatophora flavicornis*]. Brit. Nat., June 1891, p. 135.

C. W. DALE.

Cumberland, Northumberland, York, Cheshire.

The History of our British Hawk Moths [mentioning the larva of *Acherontia atropos* in 1825 being taken in Northumberland, frequently near Carlisle, and in profusion near York (Stephens)]. Brit. Nat., March 1891, p. 36 of Supplement. [*Sphinx convolvuli* noted as having occurred in Sept. 1824 near Carlisle]. Brit. Nat., July 1891, Supplement, p. 46. [Noting *Deilephila galii* on the sand-hills at Wallasey]. Brit. Nat., Oct. 1891, Supplement, p. 56.

GEO. O. DAY.

Cheshire.

Notes on the Past Season: Delamere Forest [*Nyssia hispidaria* scarce, *Trachea pimperda*, *Cymatophora duplaris*, *Drepana falcula*, *Hepialus hectus*, *Melanthia albicillata*, *Aspilates strigillaria*, *Anarta myrtilli*, *Aplecta nebulosa*, *Noctua festiva*, *N. baia*, *N. glareosa*, black form of *Xylophasia polyodon*, *Cloantha solidaginis*, *N. dahlii*, *Triphena fimbria*, *Melanthia rubiginata*, *Xanthia cerago*, *Charæas graminis*, *Anchocelis rufina*, *A. macilenta*, *Agriopsis aprilina*, *Phlogophora meticulosa*, *Himera pennaria*, *Cerastis vaccinii* very plentiful, larvæ of *Notodonta dromedarius*, *Lophopteryx camelina*, *Drepana falcula*, *Hylophila prasinana*, *Hadena pisi*, and *Amphidasys betularia*, all in profusion, those of *Acronycta leporina* rather scarce]. Ent., Dec. 1891, pp. 301-302.

G. C. DENNIS.

'York.'

Notes of the Season of 1890 (Lepidoptera).—York [larvæ of *Eupithecia albipunctata* in quantity the only redeeming feature of the season]. Ent. Record, Jan. 15th, 1891, p. 286.

G. [C.] DENNIS.

York Mid W., ? Derbyshire.

Eupithecia albipunctata var. angelicata [with type at Askham Bog and Bishop's Wood; an Editorial note refers to a parallel black var. of *Eupithecia virgaureata* which is bred at Burton-on-Trent]. Ent. Record, May 15th, 1891, p. 37.

G. C. DENNIS.

'York.'

Arctia lubricipeda vars. [at York]. Ent. Record, June 1st, 1891, p. 58.

F. H. WOLLEY DOD.

Cumberland, Westmorland.

Notes of the Season . . . Lake District [with details of Capture of *Erebia cassiope* near Styehed Tarn, and failure to find it on Helvellyn and at Red Skrees; capture of *Argynnis selene*, *A. aglaia*, *Canyonympha davus* on Helvington Moss near Kendal, *Asthena luteata*, *Metrocampa margaritata*, *Abraxa ulmata*, *Cidaria populata*, *Melanthia ocellata*, *Nudaria mundana*, *Aplecta herbida*, *Platypteryx falcula*, *Larentia pectinaria*, *Eupithecia virgaureata*, *Tanagra cherophyllata*, *Hepialus hectus*, *H. vellela*, *Pidonia atomaria*, *Anaitis plagiata*, *Cidaria suffumata*, *Coremia munitata*, *Notodonta dicticoides*, *Acronycta ligustri*, *Notodonta chaonia*, *Amphidasys prodromaria*, and *Eupithecia pulchellata*; county uncertain, except as to the two species localised]. Ent. Record, Oct. 1st, 1891, pp. 205-206].

R. DUTTON.

York N.E.

Times of Emergence [of *Epione vespertaria* at York]. Ent. Record, June 1st, 1891, p. 71.

R. DUTTON.

'York.'

Notes of the Season . . . York [*Acronycta rumicis*, *Leucania pudorina*, *Noctua rubi*, *N. augur*, *Apamea gemina*, *Plusia festucae*, *Orthosia suspecta*, *Collix sparsata*, *Acronycta leporina*, *Acidalia immutata*, and *Hydrelia unca* noted]. Ent. Record, Sep. 15th, 1891, p. 183.

- R. DUTTON. 'York.'
Notes of the Season . . . York [anent *Leucania pudorina*, *Apamea gemina*, *Plusia festucae*, *Noctua rubi*, *Graphiphora augur*, *Dyschorista suspecta*, *Acronycta leporina*, and *Eupithecia albipunctata* var. *angelicata*].
 Ent. Record, Dec. 15th, 1891, p. 285.
- GEO. ELISHA. York N.E.
Re-occurrence of Col[eophora]. chalcogrammella [at Scarborough, its only British locality; detailed account]. E.M.M., July 1891, p. 198.
- [C.] FENN. Northumberland.
[Exhibition of *Triphaena ianthina* from Northumberland]. South Lond. Ent. Soc., Feb. 26th, 1891; E.M.M., April 1891, p. 114.
- [C.] FENN. York S.W.
[Exhibition of *Dasypolia templi* from Barnsley]. South Lond. Ent. Soc., Sep. 24th, 1891; Ent. Record, Oct. 1st, 1891, p. 214.
- JOHN FINLAY. Northumberland S.
Single-broodedness of *Cidaria silaceata* [at Meldon Park, Morpeth].
 Ent. Record, Nov. 15th, 1891, p. 257.
- W. H. B. FLETCHER. 'York.'
[Exhibition of a long series of *Zygæna lonicerae* from York, together with hybrids]. Ent. Soc. Lond., March 4th, 1891, publ. June 1891, p. ix.; Ent. Rec., March 16th, 1891, p. 352; Ent., April 1891, p. 102; E.M.M., April 1891, p. 115; Zool., April 1891, p. 160.
- [W. W.] FOWLER. Lincoln N.
[Exhibition of *Acronycta alni* and *Leiocampa dictæa*, taken at the electric light of the Jubilee illumination of Lincoln Cathedral]. Proc. Ent. Soc. Lond., Dec. 7th, 1887, p. lvi.
- W. W. FOWLER. Linc. N.
Black variety of *Phigalia pilosaria* at Gainsborough [taken by M. F. Burton, who found the species exceedingly abundant the same day, Feb. 15th, 1891, and that he saw another dark (but not black) specimen; he occasionally meets with black *A. betularia*, all females]. E.M.M., April 1891, p. 110; Brit. Nat., May 1891, p. 107.
- J. H. FRYER. York S.E.
[Captures at Pocklington and Allerthorpe Common, 3rd Sep., 1891; *Chrysophanus phlwas*]. N.H.J., Nov. 15th, 1891, p. 148.
- J. GARDNER. York N.E.
[*Dasycera oliviella* at Kildale-in-Cleveland: a Correction [the specimen so recorded turns out to be female *Adela degeerella*]. Nat., Ap. 1891, p. 118.
- J. GARDNER. Durham.
Extraordinary Abundance of *Plutella xylostella* [and *Plusia gamma*, at Hartlepool]. Brit. Nat., July 1891, p. 152.
- J. GARDNER [per B. A. Bower]. Durham.
[Exhibition of *Nephoteryx splendidella* H.S., *Botys lupulinalis* Clk., and *Bryotropha obscurella* Hein., taken at Hartlepool, June and Aug. 1891].
 Ent. Soc. Lond., Nov. 4th, 1891; Ent. Rec., Nov. 15th, 1891, p. 259;
 Ent. Mo. Mag., Dec. 1891, p. 336; Brit. Nat., Dec. 1891, p. 269; Ent., Dec. 1891, p. 305; Zool., Dec. 1891, p. 476.
- THOMAS GIBBS, Hon. Secretary. Derbyshire.
Report of the Entomological Section [of Burton-on-Trent Nat. Hist. Soc. for 1887-1888; *Dasychira pudibunda* at Bladon, *Acronycta alni* in Oakedge Park, *Smerinthus ocellatus* at Stapenhill, *Hepialus sylvanus* in Brethby Park, *Calamia lutosa* at Burton, *Luperina testacea* at Brethby, *Mamestra persicariae* at Burton, *Triphaena fimbria* at Newton Road, *T. interjecta* at Brethby, *Cirrhædia xerampelina* at Burton and Brethby, *Cosmia affinis* at Repton Shrubs, *Eugonia alniaria* (*tiliaria*) at Oakedge,

Hemerophila abruptaria at Bretby and Willington, *Geometra papilionaria* at Oakedge, *Timandra amataria* at Egginton, *Eup. indigata* and *Cheimatobia boreata* at Oakedge, *Lobophora carpinata* at Hopwas Wood, *Hypsipetes trifasciata* at Oakedge, *Phibalapteryx vittata* at Burton, *Scoparia mercurella* at Bretby, *Platyptilia gonodactyla* at Bretby, *Thecla w-album* and *Xanthia gilvago* at Knightley Park, *Charocampa nerii* in Burton, *Thecla w-album* in Hoofie's Wood, Hartshorne, *Anthocharis cardamines* at Appleby and Stretton-en-le-Field, *Hydræcia petasitis* at the Forge, Newton Road, *Petasia cassinea* in Hoofie's Wood, *Zenzera pyrina* in Bretby Gardens, and *Plusia festuæ* at Burton]. Ann. Rep. Burton-on-Trent N.H.S. for 1887-1888, pub. 1888, pp. 14-16.

T. GIBBS, Junr.

Derbyshire.

Calendar of Nature, 1888 [near Burton-on-Trent; dates given for *Hybernia rupicapraria*, *H. leucophæaria*, *Phigalia*, and *Anisopteryx æscularia* near Burton and *Panagra petraria* at Parson's Brake]. Ann. Rep. Burton-on-Trent N.H.S., for 1889, p. 22.

C. S. GREGSON [sic].

Ches. or Lanc. S.

Variety of *Arctia Caja* Bred [near Liverpool; variation described]. Brit. Nat., Feb. 1891, p. 34.

C. S. GREGSON.

Lanc. S. or Ches.

Hibernating of *Arctia caja* larvæ [described; presumably at Liverpool]. Brit. Nat., Feb. 1891, p. 35.

[C. S.] GREGSON.

Isle of Man.

[Exhibition of *Sciaphila colquhounana*, var., bred from larvæ collected at Scarlet Rocks, Isle of Man, 1889.] Lanc. and Chesh. Ent. Soc., Feb. 9th, 1891; Brit. Nat., March 1891, p. 59; E.M.M., April 1891, p. 113.

C. S. GREGSON.

Lanc. S.

Variety [described] of *Pieris Rapæ* [taken at Liverpool, July 19th, 1890]. Brit. Nat., June 1891, p. 134.

A. E. HALL.

? York S.W.

Pieris brassicæ [and an enormous number of parasites—presumably near Sheffield]. Brit. Nat., Jan. 1891, p. 8.

A. E. HALL.

York S.W.

Cymatophora fluctuosa [getting very scarce now near Sheffield; larval habits described]. Brit. Nat., Jan. 1891, p. 9.

A. E. HALL.

York S.W.

Variation of *Ypsipetes elutata* [on the moors near Sheffield, described]. Ent. Record, Jan. 15th, 1891, p. 281.

A. E. HALL.

York S.W.

Odonestis potatoria [near Sheffield, describing method of rearing]. Brit. Nat., April 1891, pp. 76-77.

A. E. HALL.

York S.W.

Miana strigilis* and *fasciuncula [about Sheffield; variation described]. Brit. Nat., April 1891, p. 77.

A. E. HALL.

York N.E.

[Lepidoptera observed by writer, W. Gyngell, H. W. Head, T. A. Lofthouse, with] the Yorkshire Naturalists' Union at Hayburn Wyke [on July 11th, 1891; *Pieris napi*, *P. rapæ*, *Argynnis aglaia*, *Epinephile janira*, *Chortobius pamphilus*, *Polyommatus phlæas*, *Lycæna alexis*, *Smerinthus populi*, *Sesia bembeciformis*, *Hepialus humuli*, *H. velleda*, *H. lupulinus*, *H. hectus*, *Bombyx callunæ*, *Dicranura vinula*, *Notodonta camelina*, *N. dromedarius*, *N. ziczac*, *Xylophasia rurea*, *Noctua c-nigrum*, *Teniocampa instabilis*, *T. stabilis*, *Polia chi*, *Plusia gamma*, *Anarta myrtilli*, *Rumia*, *Selenia illun*(misprinted *illustr*)*aria*, *Phigalia*, *Boarmia rhomboidaria*, *Venusia cambricaria*, *Strenia clathrata*, *Aspilates strigilaria*, *Lomaspilis marginata*, *Larentia didymata*, *L. pectinitaria*, *Emmelesia affinitata*, *E.*

albulata, *Hypsipetes elutata*, *Melanthia ocellata*, *Melanippe subtristata*, *M. montanata*, *Camptogramma bilineata*, *Eubolia mensuraria*, and *Pionea forficalis* noted, with localities and other particulars]. Nat., Sep. 1891, p. 288.

A. E. HALL.

York S.W.

[**Lepidoptera observed by**] the Yorkshire Naturalists' Union in Edlington and Wadworth Woods [near Doncaster, 16th and 17th Sep., 1891; *Vanessa io*, *Ennomos angularia*, *Cidaria immanata*, *C. russata*, *Anchocelis litura*, *Xanthia silago*, *Euperia fulvago*, *Polia chi*, *Plusia gamma*, *Gonoptera libatrix*, *Peronea comparana*, *P. variegana*, *Ephippiphora bimaculana*; also larvæ of *Epione advenaria*, *Selenia illunaria* (misprinted *illustraria*; see erratum, Nat., March 1892, p. 90), *Odontopera bidentata*, *Amphydasis betularia*, *Abraxas ulmata*, *Lomaspilis marginata*, *Eupithecia trisignaria*, *E. iariciata*, *E. albigunctata*, *Platypteryx falcula*, *Halias prasinana*, *Lithocolletis spinolella*, *L. nicelli*, *Cemiostoma scitella*, and *Nepticula tityrella*]. Nat., Nov. 1891, pp. 334-335.

A. E. HALL.

York S.W.

Late appearance of *Abraxas ulmata* [at Kiveton Park; female imago 26th Sep., 1891, found while beating full-fed larvæ]. Nat., Nov. 1891, p. 338.

GEORGE A. HARKER.

Cheshire or Lanc. S.

Notes of the Season of 1890 (Lepidoptera). . . . Liverpool [a large quantity of *Nyssia zonaria* larvæ taken]. Ent. Record, Jan. 15th, 1891, p. 286.

GEO. A. HARKER.

Lanc. S., Cheshire.

Notes of the Season (Lepidoptera) . . . Crosby and Wallasey [*Nyssia zonaria*, *Arctia fuliginosa*, *Teniocampa gracilis*, *T. rubricosa* and *Leucania littoralis* at Crosby, *Larentia multistrigaria* and *N. zonaria* at Wallasey noted; *T. opima* not found]. Ent. Record, June 15th, 1891, p. 85.

G. A. HARKER.

Lanc. S., Cheshire.

Notes of the Season . . . Liverpool [*Panagra petrararia* and pupal *Celæna hawarthii* at Hartford, *Nyssia zonaria*, *Teniocampa gracilis* and *T. opima* at Crosby]. Ent. Record, Sept. 15th, 1891, p. 180.

GEO. HARKER.

Lanc. S.

Notes of the Season . . . Liverpool [anent *Canonympha davus* near Liverpool (where?) and abundance of *Sesia bembeciformis* in Sefton Park]. Ent. Rec., Oct. 15th, 1891, p. 233.

G. A. HARKER.

Lanc. S. or Cheshire.

Notes of the Season . . . Liverpool [anent plenty of larvæ of *Notodonta dictæa*, *N. ziczac*, *N. dictæoides*, *N. dromedarius*, *N. camelina* and *Drepana falcula*; also of *Heliothis marginata* on the sand-hills; of *Celæna haworthii* on Simonswood Moss; and capture of *Glyphipteryx haworthana*]. Ent. Record, Nov. 15th, 1891, p. 255.

G. A. HARKER.

Cheshire.

***Dioryctria splendidella* at Wallasey** [one captured about six weeks ago (writing 24th Sept.)]. Ent. Record, Dec. 15th, 1891, p. 296.

J. HARRISON.

York S.W.

Larvæ of *Xanthia citrigo* [in the Barnsley district; habits described]. Ent. Record, March 16th, 1891, p. 342.

J. HARRISON.

York S.W.

Notes of the Season . . . Barnsley [anent late appearance of *Melanippe tristata* and profusion of larval *Padisca occultana*]. Ent. Record, Oct. 15th, 1891, p. 232.

W. HEWETT.

York Mid W.

The Sallows in Yorkshire [at Bishop's Wood] in 1891 [on April 14th; capture of *Teniocampa populeti*, *Pachnobia leucographa*, *T. cruda*, *T. gothica*, *T. instabilis*, *T. stabilis*, *P. munda*, *T. rubricosa*, *T. gracilis* (absent), *Cerastis vaccinii*, *Anticlea badiata*, *Hybernia progemma*, and *Diurnea fagella* noted, with detail]. Ent., June 1891, p. 145.

- W. HEWETT. York S.E.
Sphinx convolvuli near York [at Lincroft, Sep. 2nd, 1891]. Ent., Oct. 1891, p. 245.
- WILLIAM HEWETT. York N.E.
Epione vespertaria [taken on Strensall Common; detailed notes on its flight, dates, varieties, etc.]. Ent. Record, Oct. 1st, 1891, p. 211.
- WILLIAM HEWETT. 'York.'
Notes on some Lepidoptera in York District [anent *Nudaria senex*, *Phibalapteryx lignata*, *Orthosia suspecta* in great abundance, *Xylophasia polyodon*, *Apamea oculatea*, *Agrotis exclamationis*, *A. segetum*, *Calymnia trapezina*, *Triphaena pronuba*, *Plusia festucae*, *P. pulchrina*, *P. iota*, *P. chrysitis*, *Geometra papilionaria*, *Collix sparsata* in swarms, *Ypsipetes elutata*, *Melanippe subtristata*, *Larentia didymata*, *Melanthia rubiginata*, *Epione vespertaria*, and *Cabera pusaria*]. Ent., Nov. 1891, pp. 269-271.
- JOHN HILL. Derbyshire.
Dark vars. of Cymatophora duplaris [occur in the neighbourhood of Little Eaton, near Derby]. Ent. Record, Dec. 15th, 1891, p. 273.
- J. F. H[ILLS] and T. Y[OUDE, secretaries]. Lanc. S.
First Common White [*Pieris rapae*] on IV. 1 [at Penketh]. N.H.J., May 15th, 1891, p. 69.
- Cumberland, Westmorland, Lanc. S. and W.,
 Furness, York S.W., Durham.
- J. B. HODGKINSON.
Chærocampa celerio found in a Mouse-trap [in Scotland; writer mentions that over 20 examples have from time to time passed through his hands, viz., 4 from Carlisle, 3 from Manchester, 3 from Bolton, 2 from Doncaster, 1 each from Kendal, Preston, Whalley, Grange, Stockton, etc.]. Ent., Jan. 1891, p. 20.
- J. B. HODGKINSON. ? Lanc. W.
Vars. of Hypsipetes elutata [on the Lancashire high moors (whereabouts?)]. Ent. Record, April 15th, 1891, p. 7.
- J. B. HODGKINSON. Durham and Thorley.
Varieties of Vanessa urticae and Zygaenidæ ['yellow burnets' at Sunderland and Thorley]. Ent. Record, April 15th, 1891, p. 10.
- J. B. HODGKINSON. Cumberland.
Early Spring Notes . . . Carlisle [*Eudorea*, *Gelechia confinis*, and *Xysmatodoma argentimaculella* at Armathwaite, *Micropteryx purpurella* at Kingmoor, and *Elachista trapeziella* at Corby]. Ent. Record, June 1st, 1891, p. 62.
- J. B. HODGKINSON. Lanc. S. or W., Furness.
Notes of the Season (Lepidoptera) . . . Ashton-on-Ribble [*Tephrosia crepuscularia* (or *biundularia*), and at Grange-over-Sands, *Coccyx vacciniaria*, *Nepticula woolhopiella*, and *N. argentipedella*; also numerous species cited as bred]. Ent. Record, July 15th, 1891, p. 111.
- J. B. HODGKINSON. Westmorland.
Notes of the Season . . . Witherslack [*Scotosia rhamnata* added to the Westmorland fauna; larval *Depressaria capreolella*, and *Perittia obscure-punctella* also found]. Ent. Record, Sept. 15th, 1891, p. 182.
- J. B. HODGKINSON. ? Cheshire.
Luperina testacea var. guenéei [in writer's collection, probably taken by T. P. Brockholes, who used to collect on the banks of the Dee]. Ent. Record, Oct. 1st, 1891, p. 198.
- J. B. HODGKINSON. Cumberland.
Variation in and Abundance of Melitæa artemis near Carlisle [at Orton Moss]. Ent. Record, Oct. 15th, 1891, p. 220.

- GEORGE JACKSON. York Mid W.
Eupithecia albipunctata var. angelicata [at Bishop's Wood, bred with and in large proportion to type, but no intermediate forms]. Ent., May 1891, p. 126; Ent. Record, May 15th, 1891, p. 37.
- JOY. Furness, York S.W.
[Melanic Boarmia repandata L. taken on the outskirts of a Larch Wood at Hampsfell, near Grange, the same form as Porritt gets at Huddersfield; details given of the habitats in both cases]. South Lond. Ent. Soc., 10th Sep., 1891; Ent. Rec., Oct. 1st., 1891, p. 213; Ent., Oct. 1891, p. 251; E.M.M., Nov. 1891, p. 310.
- W. F. DE V. KANE. Isle of Man.
Dianthæcia capsophila and D. carpophaga [are distinct; former in the Isle of Man]. Ent. Rec., Dec. 15th, 1891, p. 273.
- P. M. C. KERMODE. Isle of Man.
Phenological Observations [giving Manx dates for White Cabbage Butterfly (*Pieris rapæ?*) *Anthocharis*, *Polyommatus alexis*, *Vanessa cardui*, *Dicranura vinula*, *Hepialus humuli*, *Abraxas grossulariata*, *Argynnis adippe*, *Xylophasia lithoxylea*, *Arctia caja*, and *Triphæna orbona*]. Yn Lioar Manninagh, April-Oct. 1891, pp. 292-6.
- MCARTHUR. Northumberland.
[Exhibition of Northumberland examples of *Triphæna ianthina*]. South London Ent. Soc., Feb. 26th, 1891; Ent., April 1891, p. 102; E.M.M., April 1891, p. 114.
- A. MACKONCHIE. Lincoln N. or S.
Notes of the Season (Lepidoptera) . . . Lincoln [*Pieris napi*, *P. brassicæ*, *Macroglossa fuciformis*, *Cabera pusaria*, *Lomaspilis marginata*, *Coremia unidentata*, *Argynnis euphrosyne*, *Hesperia paniscus*, *Thanaos tages*, *Nola cristulalis*, *Euclidia mi*, *Tephrosia biundularia*, *Eupithecia lariciata*, *Heliodes arbuti*, *Ephyra pendularia*, *Numeria pulveraria*, *Anarta myrtilli*, *Fidonia atomaria*, *Tephrosia punctulata*, *Cidaria corylata*, *Plusia pulchrina*, *Melanippe hastata*, *Melanthia albicillata*, *Iodis lactearia*, *Emmelesia albulata*, *Asthena luteata*, *Fidonia piniaria*, *Chelonia plantaginis*, *Anaitis plagiata*, *Charocampa porcellus*, *Amphidasys betularia*, and *Smerinthus ocellatus* noted]. Ent. Record, Aug. 15th, 1891, p. 133.
- T. MADDISON. Durham.
Eudorea ulmella (Scoparia conspicalis) in the Castle Eden District [a few found 20th August]. Ent. Record, March 16th, 1891, p. 347.
- T. MADDISON. Durham.
Polia chi [and] var. olivacea [both occur about Durham, in the proportion of 75 and 25 per cent. respectively]. Ent. Record, July 15th, 1891, p. 107.
- T. MADDISON. York N.E.
Agrotis ravidia [at Saltburn, 15th Aug., 1891; one at sugar]. Ent. Record, Sep. 15th, 1891, p. 185.
- T. MADDISON. Durham, York N.E.
Notes of the Season . . . Durham and Saltburn [nil; no species mentioned]. Ent. Record, Dec. 15th, 1891, p. 291.
- W. MANSBRIDGE. York Mid W.
Notes of the Season of 1890 (Lepidoptera) . . . Leeds [mentioning *Oporabia dilutata*, *Cheimatobia boreata*, *Ch. brumata*, *Hybernia aurantiaria*, *H. defoliaria* and *Cerastis vaccinii*]. Ent. Record, Feb. 16th, 1891, p. 309.
- [W.] MANSBRIDGE. York Mid W.
[Exhibition of a very fine Dark Form of *Phigalia pilosaria*, taken in a very damp and boggy wood near Leeds]. South Lond. Ent. Soc., March 26th, 1891; Ent. Record, April 15th, 1891, p. 23.

- W. MANSBRIDGE. York Mid W.
Variety of *Phigalia pilosaria* [taken at Otley, 7th Feb., 1891, dark olive-green, nearly black; environment stated]. Ent. Rec., April 15th, 1891, p. 7.
- W. MANSBRIDGE. York Mid W. or S.W.
Varieties of *Polia chi* in the Leeds district [var. *suffusa* almost as common as type, and *olivacea* in the proportion of one twenty-fifth]. Ent. Record, Oct. 1st, 1891, p. 200.
- W. MANSBRIDGE. York S.W.
Variety of *Coremia ferrugata* [taken at Edlington Wood near Doncaster, spring of 1891; variation confined to right wing]. Ent. Record, Oct. 1st, 1891, p. 200.
- J. MASON. Lanc. Coast.
Tæniocampa opima [a note on rearing larvæ collected on the Lancashire Coast]. Ent. Record, Dec. 15th, 1891, p. 294.
- W. A. M[AW]. York N.E.
[First Orange-tip (*Anthocharis cardamines*) at Bootham, 11th May, 1891]. N. H. J., June 15th, 1891, p. 90.
- J. COSMO MELVILL. Lanc. S., York S.W., Durham.
Chærocampa nerii [caught at Prestwich in 1847, found in a collection formed by the late Mr. Crozier, of Manchester, now added to writer's collection; another example now in Owens College Museum, also at light on a street-lamp in Prestwich five or six years ago; *Catocala fraxini* at Agecroft also noted; editor adds references to Sheffield, 14th Sept., 1867, and Hartlepool, 23rd July, 1885, occurrences]. Ent., Aug. 1891, p. 195.
- [J. COSMO] MELVILLE. Lanc. S.
[Exhibition of a fine *Chærocampa nerii* captured at Prestwich in 1846 (1847 in some reports)]. Lanc. and Chesh. Ent. Soc., Sep. 14th, 1891; Ent. Rec., Oct. 1st, 1891, p. 216; Brit. Nat., Oct. 1891, p. 221; E.M.M., Oct. 1891, p. 279; Ent., Oct. 1891, p. 251.
- WM. MILBURN. York N.W.
Lycæna agestis* var. *salmacis [is taken on dry banks at Richmond, Yks., and is about a fortnight later than type]. Ent. Record, March 16th, 1891, p. 331.
- W. MILBURN. ? Durham or York N.W.
Notes of the Season of 1890 (Lepidoptera) . . . Darlington [*Pacilocampa populi*, *Petasia cassinea*, *Dasyptolia templi*, *Cidaria miata*, and *Oporabia dilutata* taken at light 'last week' (writing 27th Oct.)]. Ent. Record, March 16th, 1891, p. 334.
- WM. MILBURN. ? Durham or York N.W.
Collecting Sallow Catkins [near Darlington; *Eupithecia tenuiata*, *Cosmia trapezina*, *Hypsipetes elutata* and *Epunda viminalis* taken]. Ent. Record, March 16th, 1891, p. 341.
- WM. NEWMAN. ? Durham or York N.W.
Note on the Second Brood of *Cidaria truncata* [= *C. russata*, at Darlington; dates given]. Ent., Nov. 1891, p. 268.
- R. NEWSTEAD. Cheshire.
The Cheshire Plague of Caterpillars [of *Cheimatobia brumata* and *Hyponomeuta padellus*, which committed great ravages; lengthy details given]. Ent., Jan. 1891, pp. 18-20.
- R. NEWSTEAD. Cheshire.
[Exhibition of *Vanessa antiopa* captured in Cheshire, 1872]. Lanc. and Cheshire Ent. Soc., Feb. 9th, 1891; Brit. Nat., Mch. 1891, p. 59; E.M.M., Ap. 1891, p. 113.

- J. E. NOWERS. Derbyshire.
Calendar of Nature, 1886 [for Burton-on-Trent; dates given for *Phigalia* (Repton shrubs), *Hybernia leucophaearia* (do.), *Taniocampa gothica* (near Ferry), *T. instabilis* (do.), *T. gracilis* (do.), *Dicranura vinula*, *Noctua festiva*, *Abraxas ulmata* (Bretby), *Asthena blomeraria* (do.), *Thecla w-album* (do.), *Odonestis* (Willington), *Chesias spartiata* (do.), *Hepialus velleda* (Bretby), *Eup. lariciata* (do.), *Miana arcuosa* (Drakelowe), *Noctua xanthographa*, and *Oporabia dilutata* (Drakelowe)]. 11th Ann. Rep. Burton-on-Trent N. H. and Arch. Soc. for 1886, pub. 1887, pp. 22-26.
- DOUGLAS H. PEARSON. Notts.
Larvæ of *Apamea ophiogramma* in Nottingham [on ribbon-grass in garden at Chilwell; identified by R. South]. Ent., Dec. 1891, p. 298; bibliog. note in Ent. Record, Dec. 15th, 1891, p. 277.
- DOUGLAS H. PEARSON. Notts.
Lepidoptera at Gas Lamps [at Chilwell near Nottingham; *Ennomos tiliaria*, *Gortyna flavago*, *Trichiura crategi*, *Scotosia dubitata*, *Cidaria testata*, *C. miata*, *Miselia oxyacanthæ*, *Hydræcia micacea*, *Tapinostola fulva*, *Oporabia dilutata*, *Diloba ceruleocephala*, *Cheimatobia brumata*]. Ent., Dec. 1891, p. 299.
- JNO. PHILIPSON. Cheviotland.
Matters of Interest to the Naturalist [including capture of three or four specimens of the Bed-straw Hawk Moth (*Deilephila galii*) in or close to Berwick]. Nat. Hist. Trans. Northumb. Durh. and Newc., vol. 10, pt. 2, 1890, p. 411.
- F. N. PIERCE. Cheshire.
Secretary's Report [to Lanc. and Chesh. Ent. Soc., noting *Sphinx convolvuli* from Oxton, by Mr. Laidlaw]. 14th Ann. Rep. Lanc. and Chesh. Ent. Soc., session 1890, publ. 1891, p. 13.
- F. N. PIERCE. Cheshire.
The Genital Armature of the Genus *Miana* [with references at p. 72, to *M. fasciuncula* and *M. strigilis* and their habitats at Bidston Marsh and adjoining sandhills]. Brit. Nat., April 1891, pp. 70-75, and 2 woodcuts.
- [G. T.] PORRITT. Durham.
[Remark that a brown form of *Crambus perlellus* occurred with the type at Hartlepool]. Proc. Ent. Soc. Lond., Oct. 5th, 1887, p. xliii.
- [G. T.] PORRITT. Yorkshire, Isle of Man.
[Exhibition of almost black specimens of *Cidaria russata* from Yorkshire and Isle of Man, compared with examples from the Hebrides and South of England]. Proc. Ent. Soc. Lond., Dec. 7th, 1887, p. lv.
- G. T. P[ORRITT]. Yorkshire, Lancashire, Cheshire.
A [Numerical] Comparison of the Lepidopterous Fauna of Yorkshire and Lancashire and Cheshire [with a list of 19 species added to the writer's published Yorkshire list]. Nat., Jan. 1891, pp. 15-16.
- G. T. PORRITT. York S.W.
The Differentiation of *Cidaria russata* (truncata) and immanata [discussed from Yorkshire experience]. Ent. Record, Jan. 15th, 1891, p. 274.
- GEO. T. PORRITT. York S.W.
"A query as to hibernation" [asked by Dr. Chapman, answered by writer in respect of *Dasypolia templi* in South-west Yorkshire]. E.M.M., Feb. 1891, p. 50.
- GEO. T. PORRITT. York S.W.
***Collix sparsata* and other Lepidoptera . . . near Thorne Waste** [July 16th, 1891; the others were *Notodonta dictæoides*, *N. dromedarius*, *N. camelina*, *Platypteryx falcula*, *N. dictica*, and *Acronycta megacephala*]. Nat., April 1891, p. 118.

- GEO. T. PORRITT. York S.W., Notts.
Description of the Larva of *Euperia fulvago* [from specimens taken in Wadworth Wood, near Doncaster, where it occurs in some plenty, the only locality besides Sherwood Forest of which this can be said]. *E.M.M.*, May 1891, pp. 121-122.
- G. T. PORRITT. York Mid W.
[Lepidoptera observed by] the Yorkshire Naturalists' Union at Malham and Gordale [11th Sep., 1890; *Cidaria immanata* and *Sciaphila pascuana*]. *Nat.*, June 1891, p. 177.
- G. T. PORRITT. York S.E.
[Lepidoptera observed by] the Yorkshire Naturalists' Union on the Wolds [at York Dale and Sledmere, 3rd Aug., 1891; *Arge galatea* re-discovered, *Satyrus aegeria*, *S. hyperanthus*, *Asthena blomeri*, *Venusia cambricaria*, *Acidalia aversata*, *Melanthia albicillata*, *Abraxas ulmata*, *Coremia unidentaria*, *Cidaria immanata*, *Cucullia verbasci*, *Scoparia ulmella* (= *conspicualis*), and *Tortrix cinnamomeana*]. *Nat.*, Oct. 1891, p. 303.
- GEO. T. PORRITT. York S.W.
***Pterophorus paludum* in Yorkshire** [at Thorne Waste, 18th July, 1891; a most important find; verified by Sidney Webb]. *Nat.*, Oct. 1891, p. 312; *E.M.M.*, Oct. 1891, p. 275; abstract in *Brit. Nat.*, Dec. 1891, p. 268.
- G. T. PORRITT. York S.W.
***Trichoptilus paludum* on Thorne Moor** [one taken July 18th, 1891; its most N. locality in Britain]. *Ent. Record*, Oct. 1st, 1891, p. 210.
- GEO. T. PORRITT. York S.E.
Re-occurrence of *Arge Galathea* in East Yorkshire [at Sledmere, where it once occurred commonly: had been regarded as extinct in Yorkshire for probably 25 years]. *E.M.M.*, Oct. 1891, p. 275.
- G. PULLEN. Derbyshire.
Larvæ of *Bryophila Perla* in December [rather common, presumably at or near Derby]. *Brit. Nat.*, Jan. 1892, p. 17.
- G. RENSHAW. Lanc. W.
Note on *Lycænidae* [recording capture of a dwarf male *L. icarus* at Lytham, 12th Sep., 1891; and of a male *L. adonis* there a few days later]. *Ent.*, Nov. 1891, p. 267.
- G. RENSHAW. Cheshire.
***Acronycta alni* Larva near Manchester** [one at Sale one August]. *Ent.*, Nov. 1891, p. 267.
- A. ROBINSON. ? Durham.
***Sesia sphegiformis* in birch** [presumably at Brettanby Manor near Darlington; bred]. *Ent. Record*, Sep. 15th, 1891, p. 186.
- JOHN E. ROBSON. ? Durham.
Miania* [sic] *strigilis* and *fasciuncula [their specific status discussed, presumably from Hartlepool experience]. *Brit. Nat.*, Jan. 1891, pp. 6-8.
- JOHN E. ROBSON. Durham.
Bombyx rubi [larva picked up Feb. 1st, 1891, near Hartlepool; and its pupation described]. *Brit. Nat.*, March 1891, p. 50.
- JOHN E. ROBSON. Durham.
Variety of *Arctia mendica* [bred by John Gardner from Hartlepool parents; the specimen, a male, described]. *Brit. Nat.*, March 1891, p. 50.
- JOHN E. ROBSON. Northumberland, Durham, York N.E. and W.
***Polia chi* and its Varieties** [in Northumberland, Durham, North-east and West Yorkshire; relative abundance of type and v. *olivacea* stated]. *Ent. Record*, June 15th, 1891, p. 84.

- JOHN E. ROBSON. Durham.
The flight and Pairing of the Genus *Hepialus* [as observed with *H. humuli*, *H. hectus*, *H. sylvinus*, and *H. lupulinus* near Hartlepool]. E.M.M., July 1891, p. 197.
- J. E. ROBSON. Durham.
[Durham examples of *Lycæna astrarche* Bgstr. (agestis), showing the species in all its forms, vars. *salmacis* St. and *artaxerxes* Fab., with intermediate forms]. South Lond. Ent. Soc., 27th Aug. 1891; Ent., Oct. 1891, p. 250; E.M.M., Nov. 1891, p. 310.
- JOHN E. ROBSON. Durham.
Var. of *Lycæna Agestis* [described; taken at Black Hall Rocks, Hartlepool, July 1891]. Brit. Nat., Oct. 1891, p. 214.
- JOHN E. ROBSON. Durham.
***Sphinx Convolvuli* at Hartlepool** [one caught on the sea-wall, 19th Oct., and two others]. Brit. Nat., Nov. 1891, p. 248.
- JOHN E. ROBSON. Durham.
Variation of *Zygæna filipendulæ* [as observed in the Hartlepool district]. Ent., Dec. 1891, p. 296.
- JOHN E. ROBSON. Durham.
Double-broodedness of *Cidaria silaceata* [near Hartlepool, discussed]. Ent. Record, Dec. 15th, 1891, p. 297.
- J. H. ROWNTREE. York N.W.
[Lepidoptera observed by] The Yorkshire Naturalists' Union at Leckby Carr [on 18th May, 1891; *Fieris rapæ*, *Anthocharis*, *Vanessa urticae*, *Arctia menthastri*, and *Diurnea fagella* the only species noted; weather being unfavourable]. Nat., Aug. 1891, p. 238.
- J. H. ROWNTREE. York Mid W.
[Lepidoptera observed by] the Yorkshire Naturalists' Union at Grassington [on June 20th, 1891; *Eupithecia pygmaea*, *Procris statices*, *Venusia cambricaria*, *Demas coryli*, *Numeria pulveraria*, *Melanthia albicillata*, *Pyrausta punicealis*, *Anthocharis*, *Nudaria mundana*, *Venilia*, *Fidonia piniaria*, *Abraxas ulmata*, *Lomaspilis marginata*, *Eup. lariciata*, *Coremia propugnata*, *C. ferrugata*, *Scotosia dubitata*, *Larentia pectinitaria*, *Asthena candidata*, *Emmelesia albulata*, *Tortrix icterana*, *Pardia tripunctana*, and *Chrysoclista flavicapitella*]. Nat., Sep. 1891, p. 265.
- J. H. ROWNTREE. York N.W.
Lepidoptera in Upper Swaledale, August 1890 [were *Chortobius pamphilus*, *Lycæna alexis*, *Larentia cæsiata*, *L. olivata*, *Melanippe montanata*, *Tanagra cherophyllata*, *Caradrina cubicularis*, and *Pterophorus pterodactylus*]. Nat., Dec. 1891, p. 354.
- JOHN SANG. Durham.
[List of 747 Lepidoptera, enumerated as occurring in the neighbourhood of Darlington]. R. T. Manson's Zig-Zag Ramblings by a Naturalist; small 8vo., Darlington, 1884, pp. 140-149.
- W. E. SHARP. Cheshire.
[Lepidoptera noted by] The Coleopterest [sic] in Delamere Forest [*Argynnis euphrosyne*, *Thecla rubi*, *Chortobius davus* var. *rothliebii*, *Euthemonia russula*, *Fidonia atomaria*, and *F. piniaria*]. Brit. Nat., Nov. 1891, pp. 238-243.
- RICHARD SOUTH. Cheshire.
Remarks on the Variation of *Zygæna filipendulæ* [mentioning var. *f. cerina* Robson, at Birkenhead]. Ent., Oct. 1891, p. 233.

D. H. S. STEUART.

Lancashire, Cheshire, Yorkshire.

Cloantha solidaginis in Inverness-shire [with repetition of Newman's statement as to Lancashire, Cheshire, and Yorkshire being 'its favourite counties']. Ent., May 1891, p. 126.

C. E. STOTT.

Derbyshire, Lanc. S., Cheshire, Yorkshire,
Durham, Cumberland, Westmorland.

Celoena haworthii [and its occurrence on Red Moss, near Horwich, Lancs.; its habits, time of appearance, variation, distribution, etc.; in Derbyshire, Cheshire, Yorkshire, Lancashire, Durham, Cumberland, and Westmorland it is taken commonly though rather local]. Brit. Nat., Dec. 1891, pp. 259-263.

[C. F.] THORNEWELL.

Derbyshire.

[Note on two forms of *Phigalia pilosaria* found round Burton-on-Trent, one large and light found early in the open country, and one smaller, darker, and found later in the woods]. Birmingham Ent. Soc., March 16th, 1891; E.M.M., May 1891, p. 135; Ent., May 1891, p. 128.

C. F. THORNEWILL.

Derbyshire.

Calendar of Nature, 1890 [as noted about Burton-on-Trent; Derbyshire dates and localities given for *Lobophora hexapterata*, *Lomaspilis marginata*, *Xanthia citrigo*, *Phigalia*, *Cheimatobia*, *Eupithecia sobrinata*, *Diloba ceruleocephala*, *Trichiura cratægi*, *Asthena blomeri*, *Abraxas ulmata*, *Thecla w-album*, *Cirrhædia*, *Eupithecia fraxinata*, *Eup. subfulvata*, and *Orgyia antiqua*]. Ann. Rep. Burton-on-Trent Nat. Hist. Society, Sep. 30th, 1891, pp. 10-11.

C. F. THORNEWILL.

? Derbyshire.

[Exhibition of *Sphinx convolvuli* taken at Burton-on-Trent on 30th Sep.]. Ent. Record, Dec. 15th, 1891, p. 305.

A. THURNALL.

? York S.W.

Phoxopteryx myrtillana near London [which writer surmises to have taken a railway journey from Yorkshire per G.E.R. from Doncaster]. Ent. Record, April 15th, 1891, p. 16.

W. H. TUGWELL.

Cheshire, Derby, Notts, Linc. N., Lanc. S.,
Durham, Northumberland S.

Can *Deilephila galii* be found in the Larval State every year in England? [the question discussed at length, mainly with regard to Wallasey sandhills evidence; records for Southport, Gainsborough, Darlington, Macclesfield, Derby, Notts, Durham, Staleybridge, Bolton, Newcastle, etc.]. E.M.M., Jan. 1891, pp. 5-7.

[W. H.] TUGWELL.

'York.'

[Exhibition of parallel series of *Hydrocampa nymphæalis* from York and Kent, the former being very dark]. South Lond. Ent. Soc., March 12th, 1891; Ent. Record, April 15th, 1891, p. 23.

W. H. TUGWELL.

York S.W.

[Exhibit of varieties from Huddersfield of *Arctia mendica*, *A. caja*, and *Boarmia repandata* var. *nigra*]. South Lond. Ent. Soc., 15th April, 1891; Ent. Record, May 15th, 1891, p. 43.

W. H. TUGWELL.

York S.W.

[Exhibition of and remarks upon Huddersfield and Barnsley specimens of *Spilosoma mendica* Esp.]. South Lond. Ent. Soc., June 11th, 1891; Ent., July 1891, p. 176; Ent. Record, July 15th, 1891, p. 119.

[W. H.] TUGWELL.

York S.W.

[Exhibition of Huddersfield and Southern English *Melanippe galiata* Hb., for comparison]. South Lond. Ent. Soc., Nov. 12th, 1891; E.M.M., Dec. 1891, p. 335.

- T. TUNSTALL. Lanc. S. or Cheshire.
Notes of the Season of 1890 (Lepidoptera) . . . Warrington [beating birch has produced larva of *Viminia menyanthidis*, *Cuspidia leporina*, *Notodonta dictæoides*, *N. dromedarius*, *N. camelina*, *Drepana lacertula*, *D. falcula*, *Hadena pisi*, *Saturnia carpini*, and *Amphidasys betularia*]. Ent. Record, Jan. 15th, 1891, p. 287.
- York S.W. and Mid W., Derby, Cheshire, Lanc. S.,
Durham, Isle of Man, Cumberland, Notts.
- J. W. TUTT.
Melanism and Melanochroism in British Lepidoptera [8vo. cloth, pp. 66: dated Oct. 1891; the subject discussed in detail, with the customary references to *Amphidasys betularia*, *Tephrosia biundularia*, *Boarmia rhomboidaria*, *B. repandata*, *Diurnea fagella*, *Hybernia progemma*, *Cidaria russata*, *Arctia mendica*, *Polia chi*, etc., in the northern counties of England].
- [J. W.] TUTT. Isle of Man.
[Remark upon *Agrotis pyrophila* having been commoner than usual in 1890 at the Isle of Man and other localities]. Ent. Soc. Lond., Feb. 4th, 1891; Ent. Record, Feb. 16th, 1891, p. 312; Ent., March 1891, p. 77; E.M.M., March 1891, p. 84; Brit. Nat., March 1891, p. 55; Zool., March 1891, p. 120.
- [J. W.] TUTT. Lancashire.
The Geometrid genera—Melanthia, Melanippe and their allies [discussed in detail, and comparison of the Lancashire and South Coast forms of *Melanippe galiata* made]. City of Lond. Ent. Soc., Feb. 5th, 1891; Ent. Record, Feb. 16th, 1891, p. 314; Brit. Nat., March 1891, p. 56.
- Lake District, York N.E. and S.W., Cheshire, Durham,
Northumb. S., Isle of Man, Westmorland, Furness.
- J. W. TUTT.
The Pterophorina of Britain [Monographed; with mention of *Amblyptilia acanthodactyla* Hb., being locally abundant in the Lake District and rare at Huddersfield, repeating Porritt's observations from E.M.M., xxi., 208]. Brit. Nat., Mch. 1891, p. 42. [*Oxyptilus hieracii* noted as at Birkenhead, Darlington, and Newcastle-on-Tyne]. Brit. Nat., Sept. 1891, p. 186. [*Oxyptilus heterodactylus* Haw. (= *teucris* Greening = *britanniodactylus* Gregson), at Pettypool Wood, also in the Isle of Man, in Westmorland, at Humphrey Head, Furness, and Delamere Forest]. Brit. Nat., Oct. 1891, p. 209. [*Oxyptilus parvidactylus* Haw. noted as occurring at Scarborough, and *Trichoptilus paludum* Zell. as being taken by G. J. Parritt (sic) on Thorne Moor]. Brit. Nat., Nov. and Dec. 1891, pp. 251-256.
- [J. W.] TUTT. Lanc. W.
[Variety of *Luperina testacea* taken at St. Anne's-on-Sea by T. Baxter exhibited: the same specimen by means of which R. South (Ent., xxii., 271-272) had attempted to sink *nickerlii* Freyer as a var. of *testacea*; lengthy discussion]. City of Lond. Ent. Soc., Mch. 19th, 1891; Ent. Rec., April 15th, 1891, p. 21; Brit. Nat., May 1891, p. 105.
- J. W. TUTT. 'York.'
Melanism and Melanochroism in British Lepidoptera [discussed; W. Prest's York observations quoted]. Ent. Record, June 15th, 1891, pp. 77-80.
- J. W. TUTT [not signed]. York N.E.
[Mr. Elisha has discovered cases of the rare *Coleophora chalcogrammella* near Scarborough]. Ent. Record, June 15th, 1891, p. 81.
- [J. W.] TUTT. York S.W.
[Of the variety of *Lobophora hexapterata* with a pale zone occupying the whole of the centre of the wing, the British specimens came almost exclusively from South Yorkshire]. City of Lond. Ent. Soc., June 18th, 1891; Ent. Record, July 15th, 1891, p. 118.

- J. W. TUTT. York S.E.
The genus *Zygæna* [discussed ; the largest and most typical examples of *Z. trifolii* are from Spurn (Boult), of which a few details are given]. Ent. Record, July 15th, 1891, p. 109.
- J. W. TUTT. York S.E.
Capture of *Agrotis obscura* and its vars. in Cambridgeshire [and comparison of East Yorkshire specimens]. Ent. Rec., Aug. 15th, 1891, p. 132.
- J. W. TUTT. York S.E.
Zygæna trifolii [found by J. W. Boult on the Coast between Bridlington and Flamborough, not at Spurn as erroneously stated at p. 109]. Ent. Record, Aug. 15th, 1891, p. 139.
- J. W. TUTT. York S.W., Derbyshire, Notts.
Black Variety of *Tephrosia biundularia* [a note by another writer, with editorial comment by J. W. Tutt that very dark *T. biundularia* are taken near Barnsley, Derby, Mansfield, etc.]. Ent. Record, Sep. 1st, 1891, p. 157.
- J. W. TUTT. York Mid W. and S.W.
Polia chi* vars. *suffusa* and *olivacea [near Leeds and Bradford ; criticism of Wm. Mansfield's note]. Ent. Rec., Oct. 15th, 1891, p. 219.
- [J. W.] TUTT. 'York.'
[Capture of a very pale specimen of *Noctua augur* at York this year by Mr. Dutton]. City of Lond. Ent. Soc., Oct. 15th, 1891; Ent. Record, Nov. 15th, 1891, p. 262.
- J. W. TUTT. Durham.
Variation in *Noctua festiva* and *N. conflua* [discussed in detail at considerable length ; reference made to the forms which occur at Darlington, and at Wolsingham in Durham]. Ent. Record, Dec. 15th, 1891, pp. 266-271.
- [J. W.] TUTT. Lanc. S. and W.
Exhibition of varieties of *Noctua festiva* from Warrington, *Agrotis corticea* from St. Anne's-on-Sea, and a dark *Larentia didymata* from Liverpool]. City of London Ent. Soc., Nov. 19th, 1891; Ent. Rec., Dec. 15th, 1891, p. 300.
- J. W. TUTT [not signed]. Durham.
Current Notes [including reference to John Gardner's capture of the rare *Botys lupulinalis* and *Nephopteryx splendidella* at Hartlepool]. Ent. Rec., Dec. 15th, 1891, p. 277.
- J. W. TUTT. York Mid W., Durham, Cheshire.
Retrospect of a Lepidopterist for 1891 [reference being made to *Eupithecia albipunctata* var. *angelicata* at York, *Botys lupulinalis* at Hartlepool, *Dioryctria splendidella* at Wallasey (by Mr. Jones), and at Hartlepool (by Jno. Gardner)]. Ent. Record, Dec. 15th, 1891, pp. 277-281.
- EDGAR R. WAITE. York Mid W.
[Oak Eggar Moth (*Lasiocampa quercus*) in the Western Ainsty]. Nat., April 1891, p. 97.
- S. WALKER. York N.E.
Habits of *Epione vespertaria* [at Sandburn, near York, described]. Ent. Record, Jan. 15th, 1891, p. 289.
- S. WALKER. 'York.'
Early Spring Notes . . . York [*Hybernia rupicapraria*, *H. progemmaria*, and *Phigalia* bred ; dates given]. Ent. Record, May 15th, 1891, p. 38.
- S. WALKER. York Mid W.
Notes of the Season (Lepidoptera) . . . York [noting *Tieniocampa leucographa* and *Anticlea badiata* at Bishop's Wood]. Ent. Record, Aug. 15th, 1891, p. 134.

- S. WALKER. York Mid W.
Collecting at York [mostly done at Askham Bog; *Acronycta leporina* and *Collix sparsata* abundant, also a lovely form of *Noctua rubi*]. *Brit. Nat.*, Aug. 1891, p. 178.
- S. WALKER. York Mid W. and N.E.
Notes of the Season . . . York [*Collix sparsata*, *Phibalapteryx lignata*, *Acronycta leporina* var. *bradyporina* and *Noctua rubi* taken at Askham Bog]. *Ent. Record*, Sep. 15th, 1891, p. 183. [Anent scarcity of *Asphalia diluta* and *Anchocelis rufina*, capture of a *Luperina cespitis* on Strensall Common, capture of *Ennomos fuscantaria* and abundance of larvæ of *Eupithecia albipunctata* and its var. *angelicata*]. *Ent. Record*, Nov. 15th, 1891, p. 253.
- SYDNEY WEBB. Durham.
Zygæna filipendulæ vars. [at Hartlepool, var. *citrina* has appeared singly three times]. *Ent. Record*, March 16th, 1891, p. 331.
- S[VDNEY]. WEBB. Lanc. S.
Agrotis trux [found in a fruit warehouse at Liverpool; among odds and ends from C. S. Gregson's cabinet]. *Ent. Record*, Dec. 15th, 1891, p. 298.
- WEST. Lake District.
[Exhibition of Polia chi L., from Lake District, one extremely dark]. *South Lond. Ent. Soc.*, 12th Nov. 1891; *Ent. Mo. Mag.*, Dec. 1891, p. 335; *Ent.*, Dec. 1891, p. 306; *Brit. Nat.*, Dec. 1891, p. 270.
- T. B. WOODD. York Mid W.
Larentia ruficinctata at Oughtershaw, Langstrothdale [and at Malham]. *Nat.*, Oct. 1891, p. 309.
- E. WOODTHORPE. Linc. N.
Acronycta alni Larva in North Lincolnshire [found Aug. 23rd, 1890, in Stockhill Wood, Strubby, near Alford]. *Nat.*, March 1891, p. 68.
- J. N. YOUNG. York S.W.
Xanthia citrigo Larvæ [rather plentiful] at Rotherham [this year]. *Ent.*, July 1891, p. 173.
- JOHN A. YOUNG. York S.W.
Notes from Rotherham [anent scarcity of insects, and occurrence of *Triphaena pronuba*, *Thyatira batis*, *T. derasa*, *Triphaena fimbria*, and *Xanthia citrigo*, the larva of the latter in quantity]. *Ent.*, Nov. 1891, p. 268.
- J. N. YOUNG. York S.W.
Note on the Pairing of Amphipyra tragopogonis [near Rotherham; copulating twice]. *Ent.*, Nov. 1891, p. 268.

Erratum.—Since the publication of the first portion of this bibliography, Mr. Porritt has pointed out to me, anent the record of Leigh specimens of *Strenia clathrata* and *Hesperia lineola*, that the 'Leigh' referred to in Mr. F. J. Buckell's record, noted at the foot of p. 309, is the Essex and not the South Lancashire locality of the same name. *H. lineola* was first discovered as British a few years ago at Leigh, Essex, and has not yet been found so far north as Lancashire.—W. D. R.

NOTES AND NEWS.

The number of 'Natural Science' for August includes a specially illustrated Supplement on 'Taxidermy as a Fine Art' which though short, is interesting, and the illustrations profuse and exceptionally good.

The Malton Naturalists' Society, already favourably known for its enterprise and active vigour, as well as for the sterling character of the scientific work done by its members, have made a new departure, by the publication of a monthly magazine entitled 'Naturalist Notes,' of which Nos. 2 and 3, for July and August 1894, are before us. Much interesting local information on natural history is given, and full accounts of the doings of the Society itself, which deserves every encouragement its friends can give it.

NOTES—ORNITHOLOGY.

Variety of Fieldfare in North Notts.—It may be as well to record a uniform fawn-coloured variety of this species (*Turdus pilaris*), a female, shot with a revolver, from a flock in a hedge at Grove in December 1888. I still have its skin.—LEONARD BUTTRESS, Hendon, Middlesex, Oct. 12th, 1894.

Early Arrival of Fieldfares on the Yorkshire Wolds.—News from Wetwang. Early migration of birds (*Turdus pilaris*). Expected hard winter. 'Ah see'd a waint lot o' felts t' morn. Cum oot at north, folks say. They was feedin' on cathaws' (*Owd Mowthrup*).—E. M. COLE, Sept. 28th, 1894.

Flamborough Bird-Notes.—Of all the months of the year I think October is the most noted for rare birds migrating to this country. On the 1st October large quantities of Lapwings (*Vanellus vanellus*) were seen coming in from the sea. On October 2nd the first arrival of the Hooded Crows (*Corvus cornix*). Since that time I have noticed several Crested Wrens (*Regulus regulus*), Blackbirds (*Turdus viscivorus*), Thrushes (*T. musicus*), and Larks (*Alauda arvensis*); and this week a nice sprinkling of Woodcocks (*Scolopax rusticola*) has landed on the headland. Amongst the visitors was a Black Crow (*Corvus corone*), shot by Mr. George Botham, farmer, who noticed something tied to its neck, which proved to be the case, a piece of board 4 inches long and 1½ inches broad, with the following inscription on it:—'Leading Star, O.R.' The crow came in from the sea. I had also brought me yesterday a Green Woodpecker (*Geococcyx viridis*) caught in a grass field by Mr. T. W. Woodcock, farmer. Another perfect stranger has arrived, the name of which in course of time I mean to let you have, probably when next I write.—MATTHEW BAILEY, Flamborough, Oct. 18th, 1894.

The Pied Flycatcher and Wood Warbler on the Increase in the Lake District.—It is interesting to be able, on reviewing the past season in connection with migratory birds, to corroborate Mr. Grabham's statement as to the frequency of *Muscicapa atricapilla*. In two adjacent spots of an area where I had not known it before, its singing voice attracted me to it this spring; and another male was heard not far off. It was present in its usual habitats, of course.

Also the wood-wren, *Phylloscopus sibilatrix*, appears to be on the increase in our district. This is very noticeable upon the upper slopes of the Esthwaite Vale, where it was rare a few years since. I know of only two nesting stations hereabouts, both of them in old patches of old oak woodland, and I always thought that the birds' comparative scarcity was due to the new plantation of larch wood. An increase was apparent last year, and this summer as many as five woodland patches were possessed by wood-wrens, with at least two pairs in two of the fresh wood-stations, and as many as four pairs (so I am told) in one of the old woods. The freshly-colonised woods are of larch, but old thorns and young oaks are interspersed among them. In an adjacent valley where the population of wood-wrens have been steady, they were this year settled thickly.—MARY L. ARMITT, Borwick Lodge, Outgate, Ambleside, Oct. 5th, 1894.

NOTES AND NEWS.

Conchologists generally will be pleased to welcome the appearance of the first part of Mr. John W. Taylor's new 'Monograph of the Land and Freshwater Mollusca of the British Fauna,' which will be in the hands of the subscribers by the time this number of the 'Naturalist' is out; and when they see the style in which Mr. Taylor has done his work, thoroughly, completely and well, they will agree that it has been worth waiting for! The first volume, to consist of four parts, is devoted to the necessary introductory matter, and will be most profusely illustrated by blocks inserted in the text. The main portion of the work, that giving a full account of the various species, and intended to be illustrated by coloured plates and maps, will follow in due course. Meanwhile conchologists, and indeed all naturalists, who wish well to the work, should make it their business to swell the subscription list, the price, 5s. the part, being most moderate.

HYDROBIUS FUSCIPES; NOTES ON ITS LIFE-HISTORY, LARVAL ANATOMY, ETC.

WALTER F. BAKER, F.E.S.,

Whitkirk, Leeds; late Hon. Secretary of the Yorkshire Naturalists' Union.

THE following is a brief account of the life-history of one of our common aquatic beetles, and is given, not only as a contribution to entomological literature, but also in the hope that it will induce others to pay more attention to the life-histories of the various creatures whose distribution they are studying. I have no intention of under-rating the work done by the systematist—far from it—for the facts of distribution are quite as important in their way as any other facts, and throw light upon many points that would otherwise be obscure; but my meaning is, that instead of naturalists devoting their *whole* time to enlarging their collections and studying the distribution of insects in their own particular neighbourhood, they should extend their researches into the equally attractive and less known study of life-histories. Another class of naturalists who might with advantage turn their attention to this branch, is the so-called microscopist, who, whilst possessing a good instrument and the usual accessories, yet contents himself with buying his slides, and is always ready at a microscopical conversazione to show the ever-present stock objects, such as 'wing of butterfly,' 'diatoms,' or the 'human flea.' Very little is known of the early stages of many of our commonest insects, and though it necessitates constant and careful watching, yet it is a comparatively easy branch of natural history, and will well repay the student.

This little beetle, *Hydrobius fuscipes* (Fig. 1), is one of the commonest, if not the most common, of our aquatic beetles. It varies very considerably in size. Down in the marshes of North Lincolnshire and Nottinghamshire I have often obtained specimens measuring as much as 8 mm. in length, but most of the specimens I have obtained in Yorkshire are not more than 6½ mm., and they are occasionally found less still. It is hardly possible that this is owing to climatic distinctions, as the difference is so slight, neither is it owing to scarcity of food, for though the fens of Lincolnshire may be a more ideal spot for it than the more thickly populated and less marshy county of York, yet there cannot be any real insufficiency of food, for it is not at all particular in this respect, and I have kept them alive for nearly a year by feeding them on nothing but duckweed. Whether they are entirely



Fig. 1.

Hydrobius fuscipes × 3

vegetarian in a state of nature I am unable to say, but on dissecting tank-reared specimens I have found small crustaceans, such as Cypris, inside their œsophagus; but it is hard to imagine how such lively little creatures as these can be obtained in any abundance by such, comparatively speaking, slow-moving insects as Hydrobius. Whatever the cause, however, it is an undisputable fact that the further north one gets, the smaller are the Hydrobii, and one specimen I got at Sledmere only measured barely 5 mm. in length.

In colour the beetle varies from light brown (in recently hatched specimens) up to a very dark brown or even black. This, however, is subject to variation, for many of the Hydrobii which inhabit ponds or ditches near to the coast show a tendency to a metallic blue tint. This I noticed more especially in the ponds on the banks of the Humber to the east of Hull, and also in a pond on the sand dunes near to Cleethorpes.

Generally speaking, it is a typically vegetarian beetle, and, wherever a weed-grown pond is found, there you may be sure to find our friend, generally accompanied by a companion of like habits, *Helophorus aquaticus*. No matter if the pond be covered with a continuous covering of duck-weed, stretching from bank to bank, a few minutes' search will, as a rule, discover one, if not both, of these creatures. In fact, it is in such ponds as these that they thrive best and occur in the greatest numbers, for their great enemies, the carnivorous aquatic beetles of the family Dytiscidæ do not, as a rule, frequent ponds in which there are no open spaces where they can easily come to the surface to breathe, and consequently they are not so much 'thinned.' Other enemies of theirs there are, however, in abundance, including all such birds as ducks, teal, and water-hens, and last, but not least, frogs and newts are responsible for numbers of them. Their sluggish habits and slow mode of locomotion place them in a very great measure at the mercy of these numerous enemies.

Their legs are formed more for climbing along the stems and leaves of water-plants than for swimming, but they can, by rapidly working their legs, proceed at a fair pace through the water. As a rule, they turn over on their backs when they wish to swim, for two reasons. In the first place, being lighter than water, their whole body is not immersed, and the smooth surface of the dorsal portion offers much less resistance to the water than the ventral surface, which is thickly clothed with hairs. The second reason is connected with their respiratory system. In most aquatic beetles the air necessary for the purpose of respiration is stored between the elytra and the dorsal surface of the abdomen, the beetle elevating the tips

of the elytra above the surface of the water, slightly opening them until the air-supply is renewed, then closing them, thus imprisoning the air; but this beetle utilises the hairs on the under surface of its body, by their aid entangling a large bubble of air, almost continuous from the head to the anal segment, and from which the spiracles are supplied. This huge bubble naturally makes the ventral surface lighter than the dorsal, and consequently brings the former uppermost.

On the first approach of winter they bury themselves in the mud at the sides of the ponds or streams which they inhabit, and with rare exceptions, do not make their appearance again until the spring, unlike their carnivorous companions, which may be seen disporting themselves throughout the winter on any bright clear day, even when the surface of the water is covered by a coat of ice.

About the middle of March they emerge from their winter quarters, and about the second week in April the eggs are first laid. These are long and cylindrical, being about $1\frac{1}{2}$ mm. in length by about $\frac{1}{2}$ mm. in diameter. They are enclosed in silken



Fig. 2.

Egg Cocoon on blade of grass. $\times 6$.



Fig. 3.

Cocoon cut open, with the eggs in situ.

cocoons (Fig. 2), from nine to thirteen in each cocoon, and not placed in any regular way, but simply lying loose (Fig. 3). The cocoon itself is attached to the leaves of water-plants or to the blades of grass which hang into the water, and being partly filled with air floats on the surface of the water if, as often happens from one cause or another, it becomes detached. It is formed of closely

woven threads, and is about 4 mm. by 3 mm., flattened and rounded at one end. The other end, the last one finished, terminates in an irregularly shaped flap, by which the cocoon is fastened to the blades of grass, etc. Sometimes this loose flap is an inch and a quarter in length, and often as many as three cocoons are attached to one blade of grass. Each beetle makes three or four cocoons, at intervals of about a fortnight. In a few days the larvæ (Fig. 4) emerge from the eggs, and biting through the top of the cocoon, which is thinner than the sides, climb on to the exposed portions of water-plants, and after resting there a short time enter the water, and suspending themselves by their peculiar anal processes to the surface film of the water, gyrate about after the style of a Chironomus, only always keeping the anal segment, with the spiracular openings, above the surface of the water. This anal segment is very flexible, and they can crawl sideways, horizontally, or vertically, without altering the exposed tip. These motions are evidently for the purpose of securing the small animals upon which they, at this early stage, feed. When not engaged in performing these 'figures of eight,' they rest upon the blades of grass or leaves of plants which lie upon the surface of the water. At this stage they are very transparent, and the internal organs, including their respiratory and circulatory systems, can be easily traced. As they grow older they get opaque, owing to the accumulation of fat. The larva, being heavier than water, quickly drowns, if by any accident it is entirely submerged, and there are no means by which it can crawl out. When first hatched its head is much wider than its body, but whereas the former grows but little, the latter soon begins to assume more equal proportions, and at the end of a week, at which time the diameter of the head and the body are about equal, they measure about $4\frac{1}{2}$ mm. in length. After this, though their heads grow very little, their bodies increase both in width and length, until after about three months spent in the larval state, they attain a total length of about 12 mm., and are ready to pupate. They have at all times a most voracious appetite, and, if food is at all scarce, show very strong cannibalistic propensities, and frequently, after placing as many as a dozen together in one tank, have I found at the end of about a fortnight only one or two fine, well-fed ones and fragments of the



Fig. 4.
Larva. $\times 6$.

remainder, who had served for nourishment for the survivors.

In colour these larvæ are a dirty white with the head and prothorax fuscous. The whole upper surface is densely covered with hairs and spines, and the under surface is covered in a similar manner, but not so thickly placed. In addition to these spines, which are evidently protective, each abdominal segment has about four tubercles, the functions of which I am unable to imagine. The head is small, but well armed; two sickle-shaped mandibles, each with three teeth in the centre, form their principal means of attack or defence. The maxillæ consist of a large basal joint, with four large spines pointing inwards, and isolated ones pointing in other directions. On the top of the joint are four much smaller ones, the one next to the basal having a small tubercle at the apex. The labial palpi are two in number, each consisting of a small basal and a long apical joint. A rudimentary third palp lies between the two. The labrum is serrated. The antennæ are three-jointed, the basal joint being as large as the other two together. The eyes are twelve in number, six on either side. The prothorax has the scutum entire, whereas in the meso- and meta-thorax the scuta are broken up, and lose the usual form entirely on the abdominal segments, being very much wrinkled and crossed by deep furrows. The eighth

abdominal segment bears a sort of rosette of prominences which are capable of being shut up like a book (Fig. 4), or expanded at right angles to the body (Fig. 5); forming the means by which the larva is able to suspend itself on the surface film. In the centre of these are situated the two spiracular apertures. Air is conveyed from these two openings by means of two lateral tracheal trunks which give off smaller branches to the different parts of the body and head.

The nervous system (Fig. 6) consists of a fused mass in the head encircling the œsophagus and giving off from the sides separate nerves to each of the twelve eye spots. From the anterior margin nerves are given off to the antennæ, the maxillæ, and the labial palpi. Nerves



Fig. 5.
Respiratory system.
×6.

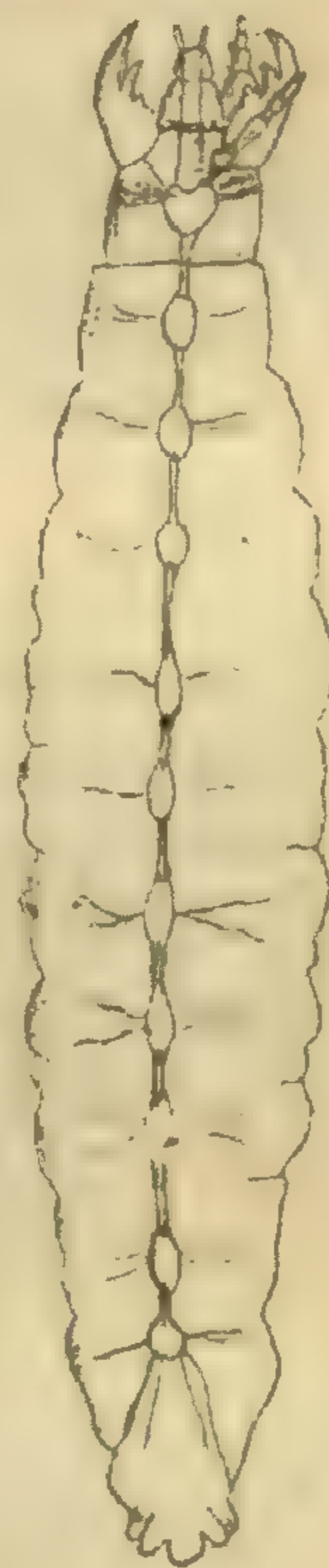


Fig. 6.
Nervous system.
×6.

are also supplied from the head to the œsophagus. The three thoracic ganglions are globular in shape and send off nerves to the legs as well as the segments. The abdominal ganglions, which are seven in number, are oval, with the exception of the last one. Nerves are supplied from each of these ganglia to the segment in which it is placed. All these ganglia are united to each other by a double cord. In the perfect insect the abdominal ganglia coalesce, and the optic nerves are not separate but form one nerve trunk to each of the two compound eyes; in other respects the structure of the nervous system is the same in larva and imago.

The alimentary canal (Fig. 7) consists of little more than a long tube running the whole length of the animal, and consisting of three divisions—the œsophagus, the stomach with its Malpighian tubules attached at each end, and a short intestine.

The circulatory system can be seen very plainly in a young larva. It consists of a long vessel, constricted at each segment, which pumps the circulatory fluid forward through the body, bathing all the organs.

When the larva is ready to pupate it crawls up the bank side, about six inches above the water, and there makes a circular burrow about a quarter of an inch below the surface (Fig. 8) but connected with the air by a small aperture. Here it remains for from three to six days and then turns into the pupa. The pupa is perfectly white and exhibits all the parts of the perfect insect in the usual shrouded form (Fig 9). Very long spines project from the prothorax, and the whole body of the pupa on the dorsal side is covered with spines



Fig. 7.
Alimentary canal. x6.

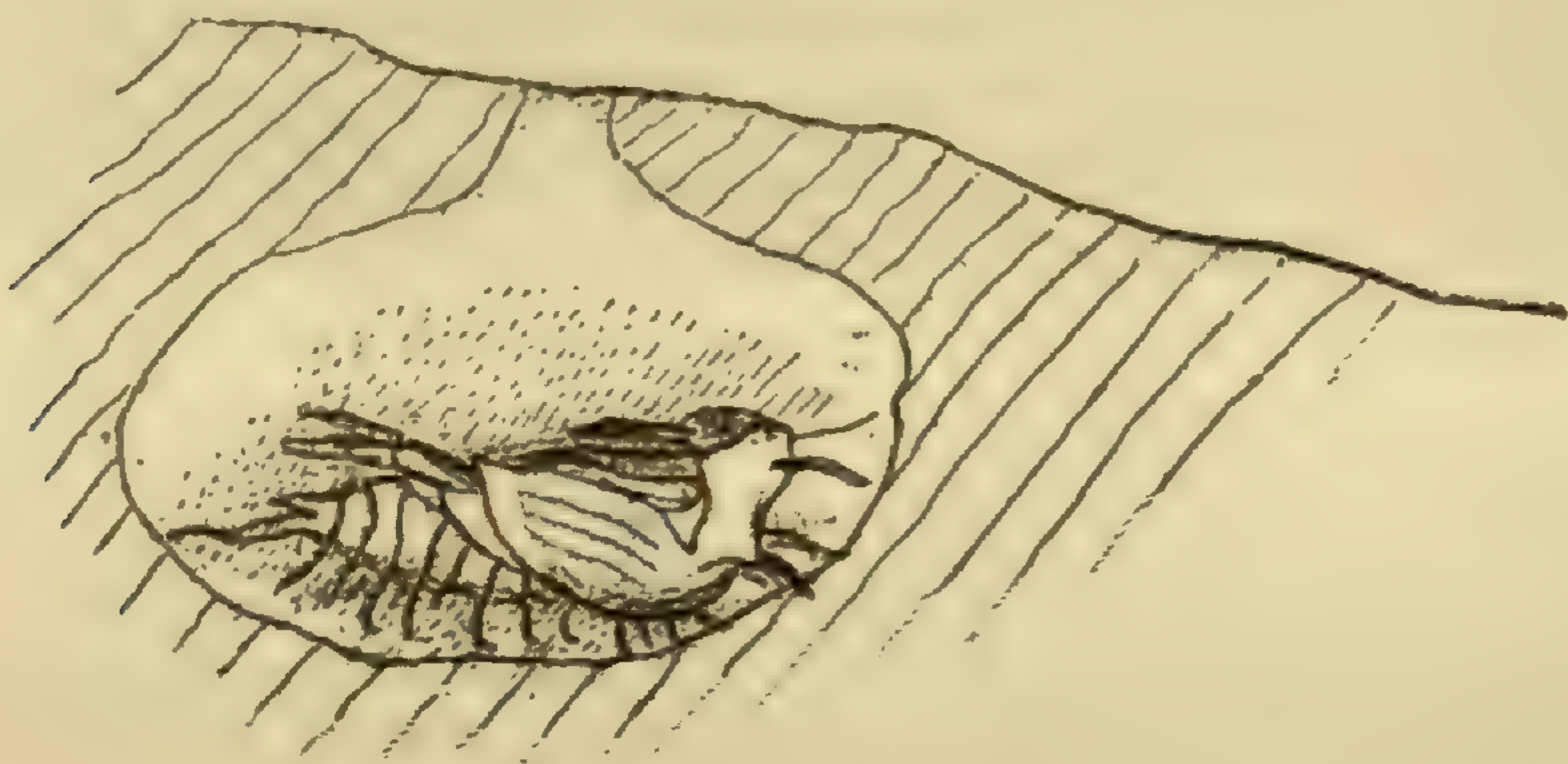


Fig. 8. Pupa in situ. x2.

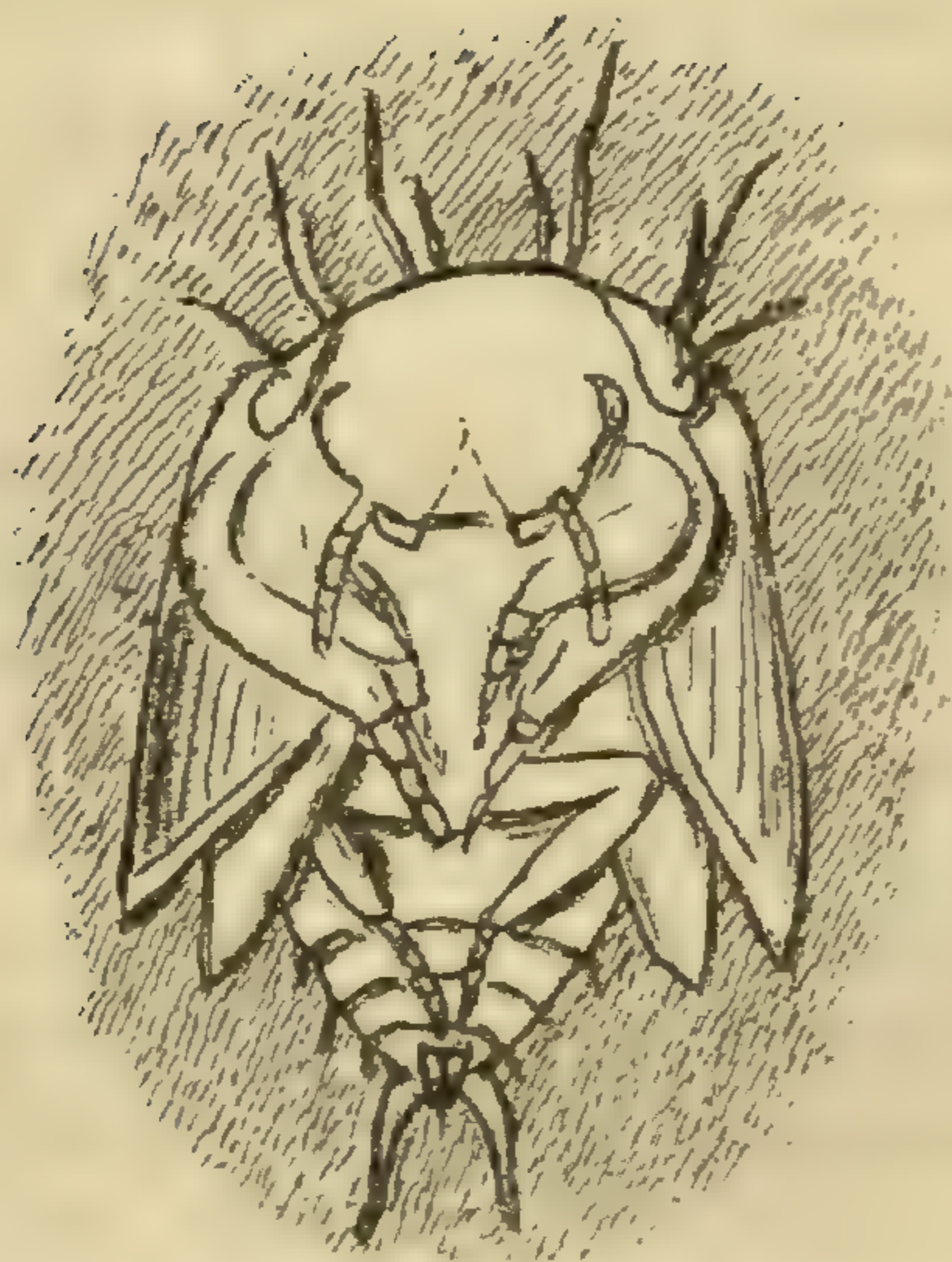


Fig. 9. Pupa, ventral aspect. $\times 2$.

whose purpose is evidently to keep the body of the pupa from resting on the damp earth. The anus is terminated by two long sinuate cerci similar to those of the pupa of *Hydrocharis* figured by Schiöedte. Although incapable of locomotion, the pupa is far from motionless, but wriggles about and moves its abdomen freely on being brought to the light or touched. After spending three weeks in this state the perfect insect emerges.

This beetle, unlike all other aquatic beetles I know of, is born with the sexual organs mature, and in three weeks' time the newly-hatched beetle forms a cocoon of eggs, and the process is repeated. Owing to this fact it is possible at the end of August to obtain all the stages of its life-history.

NOTE—BOTANY.

***Sclerochloa maritima* near Grange.**—In reply to Mr. Lister Petty's query, I may say that *Sclerochloa maritima* is not uncommon on the shore near Holme Island with *Atriplex portlandica*, etc. I have specimens.—H. T. SOPPITT, 25, Glen Terrace, Clover Hill, Halifax, Sep. 25th, 1894.

NOTE—WORMS.

Altitudinal Range of Earthworms.—Hitherto little has been done to discover at what height Worms cease to exist in Great Britain, and what species attain the greatest altitude. Rosa and others have made numerous records on this subject for the continent, and I should be glad if persons who are mountaineering would send me their captures for identification, with notes relating to habitat. I climbed Skiddaw recently, and at 2,700 feet discovered two specimens of the anglers' Gilt Tail (*Allotobophora subrubicunda*). I believe this is at present our highest record. I have found them on Cross Fell at 2,000 feet.—H. FRIEND, Cockermouth, Oct. 3rd, 1894.

NOTE—MAMMALIA.

Melanic Specimen of the Pipistrelle at Masham.—About a fortnight ago I observed a small Bat flying about in front of my house, near the hour of noon, when the sun was shining brightly, and on securing the specimen it proved to be a melanic form of the Pipistrelle (*Vesperugo pipistrellus*). I sent it to Mr. Wm. Eagle Clarke, of the Edinburgh Museum of Science and Art, who has written me to say that the Bat has been mounted for preservation.—JAS. CARTER, Burton House, Masham, R.S.O., Oct. 18th, 1894.

NIDDERDALE AND ITS NATURAL HISTORY.

Nidderdale | and the | Garden of the Nidd : | a Yorkshire Rhineland. |
Being a complete account, | Historical, Scientific, and Descriptive | of the beautiful
valley of the Nidd. | By | HARRY SPEIGHT, | . . | . . | Illustrated. | London : |
Elliot Stock, . . | 1894. | . .

SCATTERED about in various places—in the muniment chests of old manor houses and castles, in the private libraries and collections of antiquaries, but perhaps chiefly in old public libraries, such as the Bodleian, the British Museum, and the Public Records office, amongst others there are invaluable records, letters, and other MSS., containing most interesting information respecting the ancient and mediæval history of our native land. To the great mass of the reading public these are virtually sealed books : and it is only when some ardent searcher after local historical events hunts through these oft-times musty tomes and bundles, and extracts the items, one by one, and then combines them into a consecutive record of events and actions that the public can get the use and advantage of them. Such has of late years been the task—doubtless an arduous, yet still a genial one—of Mr. Harry Speight, of Bingley, the author of the book before us, and we most heartily congratulate him on its production. It would be impossible in our limited space to give any extended view of the many points of interest, both local and general, which are detailed in this handsome volume of nearly 500 pages. This is the third volume which Mr. Speight has given us respecting Yorkshire dales and rivers, viz., ‘Airedale’ (1891), ‘Craven and the North-West Highlands of Yorkshire’ (1892), and the present work, which we sincerely hope will be followed by other similar ones on other river valleys of the county of ‘broad acres.’

The first seventy pages are devoted to an account of the natural history of the district, but we regret to find that there is no separate chapter on its geology. The ‘Flora’ is from the pen of Mr. F. Arnold Lees, author of the ‘Flora of West Yorkshire,’ and includes some notes on plant distribution, from which we extract the following summary:—‘All told, the Flora of Nidderdale includes over 1,000 species ; there are 690 flowering plants, 32 ferns and fern allies, whilst the 286 lower forms of vegetation (taking no count of the fungi or algæ) bring up the total to eight above the number stated. This falls short of those of the river basins of the Yore and Wharfe to the north and south respectively, but the area of both these, and the extent of calcareous rock at the surface, is very much greater. In proportion to its size the Nidd has the richer flora.’ A list of plants under five groups is then given, followed by a detailed list of genera and species with their localities.

The Vertebrate fauna is contributed by Mr. Riley Fortune, F.Z.S., who states that it is 'the first time an attempt has been made to deal with the vertebrate fauna of the whole of the Nidd watershed.' Thirty-one species of mammalia are recorded; 169 species of birds, viz., 66 residents, 29 summer visitors, 11 winter visitors, and 63 occasional visitors, the Nightingale being included among the latter, at Crimple, in 1883-4-5; Spa Gardens, Harrogate, 1884; near Knaresborough, 1887, and Holly Bank Wood, Ripley, 1889; and the Kingfisher, 'now fairly plentiful.' Reptiles number four, amphibians five, and fishes 27. Mr. W. Denison Roebuck, F.L.S., contributes a short chapter on the Land and Freshwater Mollusca, stating *inter alia* that the whole Nidderdale list contains only one species (*Pupa marginata*) more than the Harrogate area of it, being a net total of 63 species. The average rainfall of 23 stations in the Nidd Valley is recorded, and the heights of the hills, towns, villages, etc., the highest being Great Whernside, 2,310 feet, and the lowest Nun-Monkton, 45 feet.

The author, after these details, proceeds in 43 chapters to deal with descriptive, historical, and topographical accounts of the various places of interest, and the beautiful scenery, of this lovely valley, commencing at Nun-Monkton where the Nidd joins the Ouse and proceeding up the river, with frequent divergences of a few miles on either side, to Angram the last house in the valley beyond Middlesmoor. Every chapter is full of interest, and our only regret is that we are unable from want of space to do more than indicate some of the more salient points, treated of in such minute and accurate detail in these chapters. Of these we may only venture to indicate the following: Nun-Monkton and the Fairfaxes; Cowthorpe with its great oak; Ribston and Hunsingore, the possessions of the Knights Templars and Knights Hospitallers, with a fair account of these military ecclesiastics; the old Saxon stronghold of Spofforth, once the home of the illustrious Percies; Knaresborough, to which several chapters are devoted, respecting St. Robert's Well and Chapel, Eugene Aram, Cave-houses, the Dropping Well; The Castle, where Richard II. was at one time confined; King John and the Royal Forest; Scotton, the boyhood's home of Guy Fawkes (it being remarkable that six out of the seven Gunpowder Plot conspirators came from Nidderdale, or had family connections there); Dacre Banks, Brimham Rocks, ancient Pateley Bridge and Bewerley, Ravensgill and the Forest of Nidderdale, with their ancient families, are full of interest; also How Stean, with its romantic scenery, and the large find of Roman coins there in the cavern, called 'Tom Taylor's Chamber.' The present Archbishop

of Canterbury, Edward White Benson, D.D., comes of an old Nidderdale family, and is 'the first Benson of the line who for more than 500 years has been born out of Yorkshire.' A full pedigree is given of the family, dating from Thomas (died 1496), of the Lodge of Branga, Fountains Abbey, to the present date, many of whom are of Pateley Bridge. We must, however, refrain, trusting that we have written enough to ensure that every intelligent Yorkshireman who cares for the records and scenery of his native county—and which of us does not!—will make himself the possessor of this work. We add in conclusion that the volume is profusely illustrated, contains a capital map of the district, and a good index, which, however, might have been enlarged to good purpose.—C. P. H.

NOTE—COLEOPTERA.

Beetles at Theddlethorpe, Linc. N.—In a short ramble at Theddlethorpe last August, I got *Panagæus crux-major* (1), *Agelastica halensis* (abundant), *Calathus flavipes*, *C. mollis*, *Sitones hispidulus* (common), *S. puncticollis*, *S. lineatus*, (swarming), *Hypera punctata* (2), *H. nigrirostris* (2), *Anomala frischi*, *Ægialia arenaria*, *Anisotoma calcarata?*, *Lagria hirta* (abundant), *Coccinella 22-punctata*, *C. variabilis*, *C. obliterated*, *Anthicus floralis*, *Thyamis tabida?* *Apion pisi*, *A. carduorum*, *Mecinus pyraister*, *Ceuthorrhyncus pollinarius*, *C. assimilis*, *Cæliodes maculatus*, *Brosicus cephalotes*, *Coccidula rufa*.—ALFRED THORNLEY, South Leverton Vicarage.

NOTES AND NEWS.

We are desired by Mr. F. A. Fulcher (author of 'The Penalty of Game,' etc., etc.), who may be addressed at Hyrst, South Croydon, to say that he is anxious to discover exactly how far Larks are useful in preserving crops from the attacks of noxious insects, and in order to do this correctly he is trying to identify the various grubs and insects found in the crops of the birds. He is not aware that anyone has yet named the different species found to have been eaten by birds. The ornithological writers content themselves by mentioning insects in general terms, i.e., beetles, spiders, grubs, larvæ, and other indefinite titles; but he wishes to be able to name them individually. If any entomologist therefore would lend his aid or tell Mr. Fulcher where he could procure this information, he would be most grateful, and they would be greatly advancing a somewhat neglected branch of ornithology.

—*o*—

The useful natural history work which is done by the boys at the Friends' Schools at York and Ackworth, and has been for many years, forms in our opinion a most valuable adjunct to the routine school work. We are therefore very pleased to notice in the 'Report of the Natural History Society, Ackworth, 1893-4,' that diligent attention has been given to almost all departments of natural history study, and with good results. One discovery is of importance and interest from more than one view-point, viz., the occurrence of *Utricularia neglecta* in what appears to be only its second British station. Beetle-hunting has many votaries, while Lepidoptera, Botany, Ornithology, Zoology, and Geology all have their students, but, strange to say, Conchology, which in times past has been so enthusiastically worked in the Ackworth country, is in this report conspicuous by its absence. May the Society and its studies long flourish!

A CRITICAL CATALOGUE OF LINCOLNSHIRE PLANTS:

FROM ALL KNOWN SOURCES.

REV. E. ADRIAN WOODRUFFE-PEACOCK,

*Vicar of Cadney, Brigg; Botanical Secretary of the Lincolnshire Naturalists' Union;
Curator of the Lincolnshire County Herbarium.*

FIFTH PAPER.

(First Paper, giving all explanations, *Nat.*, March 1894, pp. 85-92.)

IN this paper I have sometimes added the distribution of rarer species by giving the Botanical Divisions for which they are recorded. Lincolnshire, according to the last Ordnance Survey, contains 2,787·140 square miles of land, fresh water, salt-marsh, fore-shore, and tidal water—and nearly two-thirds of this lies in **N.** I have mapped out the county into eighteen artificial Botanical Divisions—aggregates of parishes round large places. Divisions 1-12 are in **N.**, and 13-18 are in **S.** A glance at the numbers will tell an enquirer whether the species is found in **N.** or **S.**, or both. The number inclosed in brackets after the Bot. Div. number refers to the aggregate of known records for that particular Botanical Division. I have placed a dash between the northern and southern Botanical Divisions, but have refrained from adding **N** and **S.**, as the numbers after these letters are the aggregate of records for the vice-counties. The system will be more fully explained at a later period; here I may only add that a geological or river-basin division seemed unworkable.

HALORAGEÆ.

- Hippuris vulgaris** L.† Native. Fairly common **N.** and **S.**
Myriophyllum verticillatum L.† Native. **N.**—4. **S.**—3.†
Myriophyllum spicatum L.† Native. Fairly common **N.**
 and **S.**
Myriophyllum alterniflorum DC.† Very rare native. **S.**—At
 the narrow end of Skellingthorpe Water,† 1-7-'56; Rev. R. E. G.
 Cole. Deeping neighb., 1883; W. H. Beeby. *J. of B.*, 1884, p. 19.
Callitriche verna L.† (i.e. *C. vernalis* Kock. and Kuets). Native.
 Common **N.** and **S.**
Callitriche platycarpa Kuetz.† Native. **N.**—6. **S.**—3.
CALLITRICHE HAMULATA Kuetz. Native? River Ancholme,
 Bishopbridge, 1878; F. A. Lees.

Callitriche obtusangula Le Gall.† Native. **N.**—Gunness, 1877; F. A. Lees. Bishopbridge, 1877 (?); F. A. Lees. **S.**—Deeping neighbourhood, 1883; W. H. Beeby.

LYTHRARIÆ.

Lythrum Salicaria L.† Native. Common in **N.**, but not quite so common in **S.** apparently.

Peplis Portula L.† Native. **N.**—Scunthorpe Warren, 1875; Rev. W. Fowler. Scotton Common† 1894!

ONAGRARIÆ.

Epilobium angustifolium L.† Native. Common **N.** and **S.**

VAR. brachycarpum Leight.† A garden escape. **N.**—North and South Kelsey! 1893. **S.**—Billinghay neighbourhood, 1893; Mrs. Walker.

Epilobium hirsutum L.† Native. Common **N.** and **S.**

VAR. FLORE ALBO. **N.**—‘I have lately found *Lysimachia siliquosa hirsuta magno flore albo* within ten miles of this place—i.e., Boston—towards Bollinbrook, and shall not doubt of its continuance with a white flower. They are always thereafter to be esteemed real species, since by proper experience I find they never degenerate nor vary, as the finest flowers in gardens do, for which I think these field white flowers ought to be more esteemed than the other.’ Blair’s *Pharmaco-Botanologia*, 1723, p. 25. This variety has been sought for on the spot in vain, and is not yet recorded for another place in the county.

Epilobium parviflorum Schreb.† Native. Fairly common **N.** and **S.**

Epilobium montanum L.† Native. Certainly more frequent than the last, **N.** and **S.**

Epilobium tetragonum L.† Native. **N.**—4. **S.**—3.

Epilobium obscurum Schreb.† Native, but rare. **N.**—3. **S.**—Thurlby, 1877; Rev. W. Fowler.

Epilobium palustre L.† Native, and not often recorded, or rarer than one would imagine. **N.**—8. **S.**—3.

Œnothera biennis L.† Alien escape. **N.**—2.

Circæa lutetiana L.† Native. Common **N.** and **S.**

CUCURBITACÆ.

Bryonia dioica L.† Native. Common **N.** and **S.**

UMBELLIFERÆ.

- Hydrocotyle vulgaris** L.† Native. Common **N.** and **S.**
- Eryngium maritimum** L.† Native. **N.**—From Cleethorpes! to Wainfleet on the sand-banks of the coast. No **S.** record.
- Astrantia major** L.† Alien. **N.**—Barton-on-Humber, 5-'93; Miss Firbank. 'Seemed wild, but grew in a plantation.' (F. A. L.)
- Sanicula europæa** L.† Native. Fairly common **N.** and **S.**
- Conium maculatum** L.† Native. Generally but thinly distributed **N.** and **S.**
- Bupleurum rotundifolium** L.† A doubtful native. **N.**—2.† **S.**—2.
- Bupleurum tenuissimum** L.† Native. **N.**—On coast from Mablethorpe to Wainfleet. **S.**—Fossey Bridge, 8-1837; Rev. J. Dodsworth.
- Apium graveolens** L.† Native. Common **N.** and **S.**
- Apium nodiflorum** Reichb.† Native. Fairly common **N.** and **S.**
- VAR. ochreatum** DC. Native. **N.**—2. H. Fisher's Herb. and G. Webster's Herb.
- Apium inundatum** Reichb.† Native. Common in old waters **N.** and **S.**
- VAR. Moorei** Syme.† Native. **N.**—Walkerith, 10-6-'93; F. A. Lees. Torksey, 1893; F. Mills. 'In this case clearly a terrestrial modified form of the type. Found growing on drying-up tidal-mud, grassed over, at the highest edge of bank of river Trent.' Note with F. A. L.'s spm.
- Cicuta virosa** L. Extinct native? **N.**—East Fen, before 1799; Ar. Young's *Agriculture—County of Lincs.* These spms. are in Banks' Herb. (Ar. B.) **S.**—Bourn, in the Eau, about 1838; Rev. J. Dodsworth. Lincoln neigh., **N.** or **S.** not known, Dr. B. Carrington. *Bot. Gaz.*, 1849, pp. 323-4. H. C. Watson's *Top. Bot.*, 1883, gives **S.** but with no authority. All spms. of so-called *C. virosa* L. sent to me from Lincolnshire have been *Sium* or some other water-loving species of this order.
- Carum Petroselinum** Benth.† Alien escape. **N.**—6.
- Carum segetum** Benth.† Native. **N.**—11. **S.**—2.
- Carum carui** L.† Alien, from scattered seed. Recorded for **N.** in J. Ray's *Remains*, 1661; and still found in the old locality, and in other places **N.** and **S.**

- Sison Amomum** L.† Native. Common **N.** and **S.**
- Sium latifolium** L.† Native. Common **N.** and **S.**
- Sium erectum** Huds.† Recorded for Bot. Divs. **N.** 1 (2), 2, 3, 5, 6, 7, 9, 10, 11 (4) **S.** 13, 14.
- Ægopodium Podagraria** L.† Native. Fairly common **N.** and **S.**
- Pimpinella Saxifraga** L.† Native. Common in **N.** and fairly so in **S.**
- VAR. dissecta** Spring.† A not uncommon native variety.
- Pimpinella major** Huds.† Native. Its record distribution in Bot. Divs. is **N.** 1, 2 (4), 3 (2), 5 (2), 7 (2), 8 (4), 10 (2), 11 (3), 12, **S.** 13 (4), 15 (2).
- Conopodium denudatum** Koch.† Native. Common **N.** and **S.**
- Myrrhis odorata** Scop. A denizen or alien. **N.**—Broughton Wood, 1875; Rev. W. Fowler. Herb. Brit. Mus. P. Thompson records it for Skirbeck Hundred.
- Chærophyllum temulum** L.† Native. Common **N.** and **S.**
- Scandix Pecten-veneris** L.† Native. Common **N.** and **S.**
- Anthriscus vulgaris** Pers.† Native. Common **N.** and **S.**
- Anthriscus sylvestris** Hoffm.† Native. Very common **N.** and **S.**
- Anthriscus Cerefolium** Hoffm.† Alien escape. Wispington, 7-6-'93; Rev. F. S. Alston. This species appeared in my garden this season, and is the only one to my knowledge the Herbarium and 15,000 dried plants I have examined have left me. Herbarium seeds are generally sterile. The Wispington spm. was only half dry when it came to hand.
- FÆNICULUM OFFICINALE** All.† Recorded in Mr. J. Britten's *List* in White's *Lincolnshire*, 1872.
- CORIANDRUM SATIVUM** L. Alien from scattered seed. Turner and Dillwyn's *Botanists' Guide*, 1805, says:—**S.**—Folkingham, very plentiful and apparently indigenous. The Rev. J. Dodsworth found it there about 1838.
- CRITHMUM MARITIMUM** L. A mistake which has become current on the authority of Dr. Stukeley—through the blundering of the Thompsonian *List* writers—he, no doubt, records the Lincolnshire Samphire—*Salicornia herbacea* L. But I have not seen his work yet.
- Œnanthe fistulosa** L.† Native. Very common **N.** and **S.**

- ÆNANTHE PIMPINELLOIDES* L. **S.**—In the parish of Quaplod (i.e., Quadring), Spalding, Leonard Plukenet, 1688, in his marginal manuscript notes in the British Museum copy of J. Ray's *Catalogue*. 'Misnomer. Next meant.'—F. A. L.
- Ænanthe Lachenalii** Gmel.† Native. Not uncommon **N.** and **S.**
- ÆNANTHE CROCATATA* L. Native. Very rare. **N.**—3. Near Marton Ferry, at Willingham Wood, and on Legsby Warren; all seen by F. A. L. **S.**—H. C. Watson's *Top. Bot.* '!'
- Ænanthe Phellandrium** Lam.† Native. Not uncommon **N.** and **S.**
- ÆNANTHE FLUVIATILIS* Coleman. **S.**—River Welland below Deeping, 1883; W. H. Beeby. *J. of B.*, 1884, p. 19.
- Æthusa cynapium** L.† Native. Common in garden ground **N.** and **S.**
- Silaus pratensis** Bess.† Native. Common **N.** and **S.**
- Selinum Carvifolia** L. Native, without the least doubt; but as the ground has been eaten off by sheep, not seen or gathered for some time. Broughton, 1880; Rev. W. Fowler. It was a new addition to the British Flora, and has only been found in Cambridgeshire since. It grows as high as four feet.
- Angelica sylvestris** L.† Native. Common in suitable places **N.** and **S.**
- Peucedanum palustre** Mœnch.† Native, but rare. **N.**—Sandtoft, 1879, and Laughton Common, 1878 (1894!); both Rev. W. Fowler. Gough, 1789, and Young, 1799, say East Fen, but there is no modern record.
- Peucedanum sativum** Benth.† Native. Not uncommon **N.** and **S.**
- Heracleum Sphondylium** L.† Native. Very common **N.** and **S.**
- Daucus Carota** L.† Native. Common **N.** and **S.**
- Caucalis latifolia** L.† Corn-field casual. **N.**—Lincoln, 7, 1892. Rev. R. W. Goodall (F. A. L.). **S.**—Witham-on-the-Hill; J. Parkinson's *Theat. Bot.*, 1640. Sleaford and Ancaster, R. Gough's *Britannia*, 1789.
- CAUCALIS DAUCOIDES* L. A colonist if it is still with us. **S.**—Carlby; T. J. Woodward in W. Withering's *Arrangement*. Sleaford; R. Gough, 1789. H. C. Watson received a **S.** spm. from the Rev. Andrew Bloxam, 1873-4.
- Caucalis arvensis** Huds.† Native, but rare or overlooked. **N.**—5. **S.**—H. C. Watson and Rev. A. Bloxam '!'

Caucalis Anthriscus Huds.† Native. Not uncommon **N.** and **S.**

Caucalis nodosa Scop.† Native. Fairly common **N.** and **S.**

ARALIACEÆ.

Hedera Helix L.† Native. Common **N.** and **S.**

CORNACEÆ.

Cornus sanguinea L.† Native. Common **N.** and **S.**

CAPRIFOLIACEÆ.

Adoxa Moschatellina L.† Native. Common **N.**, and I believe the same in **S.**

Sambucus nigra L.† Native. Very common **N.** and **S.**

VAR. laciniata L.† Native and rare. **N.**—Claxby, 1894; Rev. H. C. Brewster.

Sambucus Ebulus L.† Native, but very rare. **N.**—Sotby,† 1890-4; Mrs. Jarvis and W. Higginbottom. Fishtoft; L. Plukenet's *marginal MSS.*, circâ 1685-8. **S.**—Kirton; the same authority.

Viburnum Opulus L.† Native. Common **N.** and **S.**

Viburnum Lantana L.† Native in **S.**, I believe. **N.**—Caistor, 11-8-'92; W. J. Le Tall. **S.**—4.

Lonicera Periclymenum L.† Native. Common **N.** and **S.**

RUBIACEÆ.

Galium Cruciata Scop.† Native. Common **N.** and **S.**

Galium verum L.† Native. Common **N.** and **S.**

Galium erectum Huds.† Native. **N.**—5. **S.**—2.

Galium Mollugo L.† (Aggregate including the last). Native. **N.**—2. **S.**—2. This species (aggregate) is unaccountably rare, or seldom recorded.

Galium saxatile L.† Native. Fairly common **N.** and **S.**

Galium palustre L.† Native. Fairly common **N.** and **S.**

VAR. Witheringii Sm.† Native. **N.**—5.

Galium uliginosum L.† Native. Its distribution in Bot. Divs.—2, 3 (3), 8, 10, 11, 12—16 (3).

GALIAM ANGLICUM Huds. The Rev. J. Dodsworth's *Notebook* says: **N.**—Boston, on a wall.

Galium Aparine L.† Native. Common **N.** and **S.** But often nearly exterminated by a series of wet summers.

- Galium tricornis** With.† A colonist. **N.**—3. Bot. Div. 5, 6, 7.
S.—Near Stamford. Perhaps locality was not in Lincolnshire.
 W. Hudson's *Flora Anglica*, London, 1778, p. 68.
- Asperula odorata** L.† Native. Common **N.** and **S.**
- Asperula cynanchica** L.† Native, but rare. **N.**—Broughton
 Wood, 1870; Rev. W. Fowler. **S.**—3.†
- Sherardia arvensis** L.† Native. Common **N.** and **S.**

VALERIANEÆ.

- Valeriana dioica** L.† Native. Common **N.** and **S.**
- Valeriana officinalis** L.† Native. Common **N.** and **S.** This
 is the aggregate.
- VAR. Mikanii** Wats. Native. **N.**—Broughton Wood, 1880;
 Rev. W. Fowler (1894!).
- VAR. sambucifolia** Auct. Angl.† Native. **N.**—3. **S.**—Dod-
 dington, 9-7-'62; Rev. R. E. G. Cole (Ar. B.). The leaflets
 are not in every case 'toothed all round'—vide this sp. and
 others.
- Centranthus ruber** DC.† A mere garden escape. **N.**—1. **S.**—1.
- Valerianella olitoria** Mœnch.† Native. Recorded for Bot.
 Divs. **N.** 3, 5, 6 (2), 7, 8, 10 (2), 11, 12 (2), **S.** 13 (2), 16, 17 (2).
- Valerianella dentata** Poll.† Native. Bot. Divs. **N.** 1, 2, 3, 6 (2),
 7 (2), 8, 10 (2), 11 (2), **S.** 13 (2), 16 (2).

DIPSACEÆ.

- Dipsacus sylvestris** L.† Native. Common **N.** and **S.**
- DIPSACUS FULLONUM* Mill. Alien casual. **N.**—1. **S.**—1.
- Dipsacus pilosus** L.† Native. Bot. Divs. **N.** 7, 11, 12, **S.** 15
 (3), 16 (3).
- Scabiosa Succisa** L.† Native. Common **N.** and **S.**
- VAR. flore albo.** **N.**—1.
- Scabiosa Columbaria** L.† Native. Not so common as the
 last, **N.** or **S.**
- VAR. flore albo.** **S.**—1.
- Scabiosa arvensis** L.† Native. Common **N.** and **S.**

COMPOSITÆ.

- Eupatorium cannabinum** L.† Native. Common **N.**, and
 I imagine just the same in **S.**
- Solidago Virgaurea** L.† Native. Bot. Divs. **N.** 2 (2), 5, 7
 (2), 10 (3) **S.** 13.

- Bellis perennis** L.† Native. All over **N.** and **S.**, the native peat excepted. See W. A. E. Ussher's *Geology of North Lincs.*, London, 1890, p. 155 (Explanation of Geol. Map 86.)
- Aster Tripolium** L.† Native. All round coast, and up river Trent to Gainsborough.
- VAR. **discoides** Syme.† **S.**—Boston, 1838; Rev. J. Dodsworth.
- VAR. **flore albo.** †**N.**—South Ferriby, 1893; Miss E. P. Field.
- Erigeron acre** L.† Native. Fairly common **N.** and **S.**
- Filago germanica** L.† Native. Common **N.** and **S.**
- Filago spathulata** Presl. Native. **N.**—Coneysby Pits, 1878; Rev. W. Fowler. Herb. Brit. Mus. **S.**—Corby, 1882; Rev. W. Fowler's MS.
- Filago minima** Fr.† Native. Fairly common **N.** and **S.** in dry sandy places.
- Antennaria margaritacea** R.Br. Alien. **N.**—Haxey, 1877; Rev. W. Fowler. Herb. Brit. Mus.
- Antennaria dioica** R.Br. Native. **N.**—Broughton, 1875; Rev. W. Fowler. Herb. Brit. Mus. **S.**—Grantham Heath; Turner and Dillwyn's *Bot. Guide*, 1805. There is an unlocalised spm. in the Grantham Coll.—no doubt from **N.**
- Gnaphalium uliginosum** L.† Native. Fairly common on damp, light soils **N.** and **S.**
- Gnaphalium sylvaticum** L.† Native. Not common **N.** or **S.**
- Inula Helenium** L.† Colonist. **N.**—4. **S.**—2.
- Inula Conyza** DC.† Native. **N.**—4. **S.**—Walcot, 24-7-'38; Rev. J. Dodsworth.
- INULA CRITHMOIDES* L. Ballast casual. **N.**—Boston Dist. 1856; Thompsonian *List*.
- Pulicaria dysenterica** Gærtn.† Native. Common **N.** and **S.**
- Ambrosia artemisiæfolia** L. Clover casual. **N.**—Rasen, 1878; F. A. Lees. Herb. Brit. Mus.
- Bidens cernua** L.† Native in **N.** Bot. Divs. **N.** 2, 3, 5, 6(2), 9, 10 (2), 11 (2), 12.
- Bidens tripartita** L.† Native. Bot. Divs. **N.** 10, 11, **S.** 13, 14, 16 (2).
- Achillea Millefolium** L.† Native. Very common **N.** and **S.**
- Achillea Ptarmica** L.† Native. Like the last.
- Achillea decolorans** L.† A garden weed, at first undoubtedly planted. **S.**—Woolsthorpe, 1893; Rev. E. A. Gillett.
- ACHILLEA TOMENTOSA* L. Alien. **N.**—Boston Dist., 1856; Thompsonian *List*.

ORNITHOLOGICAL NOTES FROM NORTH NOTTS FOR 1893.

LEONARD BUTTRESS,

Hendon, Middlesex.

THESE notes are a continuation of those for the years 1891-92, which appeared in 'The Naturalist' for last year, pp. 87-90. As will be seen from the text, I am indebted to Mr. Cordeaux for many valuable additions.

Turdus pilaris Linn. **Fieldfare.** Was last observed on April 21st, when a flock of more than two hundred was seen at Headon.

Saxicola œnanthe (Linn.). **Wheatear.** March 28th. The first (a male in most beautiful plumage) in the park at Grove; but it did not remain long. May 10th, at about 5.30 a.m., there was a pair in Grove Park.

Pratincola rubetra (Linn.). **Whinchat.** Mr. Cordeaux saw the first Whinchat at Eaton on April 19th.

Ruticilla phœnicurus (Linn.). April 18th, near Eaton Wood. On 27th April, Mr. Cordeaux saw great numbers amongst the old oaks in the forest of Birklands.

Erithacus rubecula (Linn.). **Redbreast.** The following is a description of a curious pied variety of this species which was found dead, in March, at Upton. 'Crown of head white. Tail olive green. Rest of body and wings spotted all over with white. Patch of red on breast. The upper mandible was shorter than the lower one.' The keeper at Grove tells me that at different times he has shot three pure white Redbreasts.

Daulias luscinia (Linn.). **Nightingale.** April 12th. Arrived at Ollerton, on the forest, about this date. 'It is said that this is the earliest that it has been heard in this neighbourhood within present memory.' (cf. Retford Times, April 14th, 1893.)

Sylvia curruca (Linn.). **Lesser Whitethroat.** Was first seen on May 2nd, at Headon.

Locustella nævia (Boddaert). **Grasshopper Warbler.** Apl. 30th. Wind N. I heard one 'trilling' in a large hedge enclosing a field of young wheat, late in the evening.

Phylloscopus rufus (Bechstein). **Chiff-chaff.** On the morning of March 20th, there were Chiff-chaffs in all the plantations:

I heard four singing within a few yards of each other. During the whole of the previous night, a strong north wind was blowing.

Phylloscopus sibilatrix (Bechst.). **Wood-Wren.** Mr. Cordeaux noted this species at Eaton, on April 25th. On May 3rd, many were singing in the plantations enclosing the park at Grove. Later, they were numerous here, and nesting.

Corvus cornix Linn. **Grey Crow.** One day during the great frost, namely, January 10th, I watched a Kestrel, chasing a half-starved Grey Crow, and every now and then making a strike at it. Hooded Crows were exceptionally numerous in the winter of 1892-93, and remained until the end of March.

Corvus frugilegus Linn. **Rook.** On January 9th, when deep snow covered the ground, Rooks were searching for food in the garden, within a foot or two of the windows.

Muscicapa grisola Linn. **Spotted Flycatcher.** April 21st, wind N. In Grove Park. This is exceptionally early.

Hirundo rustica Linn. **Swallow.** April 12th. Many on the Trent at Littleborough.

Coccothraustes vulgaris Pall. **Hawfinch.** Large flocks about the plantations throughout January. On the last day of this month I heard one singing in Grove Park. March 18th. Mr. Cordeaux saw several at Eaton.

Carduelis elegans Steph. **Goldfinch.** April 4th. Singing! A flock of over sixty frequented Castle Hill Wood, Grove, all the winter.

Fringilla montifringilla Linn. **Brambling.** Mr. Cordeaux noted this species at Eaton on March 18th.

? **Acanthis linaria** (Linn.). **Mealy Redpoll.** The keeper at Grove saw a bird in Gringley Wood, on April 13th, the description of which answers to this species.

Acanthis rufescens (Vieill.). **Lesser Redpoll.** April 22nd. Nesting near the Trent at Littleborough.

Motacilla alba Linn. **White Wagtail.** April 20th. Mr. Cordeaux saw this species by the river at Eaton. A White Wagtail visited the lawn at Grove daily from 28th April to May 3rd. On May 4th, I saw one in a field near Retford.

Motacilla lugubris Temm. **Pied Wagtail.** I noted several in January; an unusual month for this species

? **Anthus spinoletta** (Linn.). **Water Pipit.** April 7th. This afternoon I saw a Pipit with almost white throat at a pond near Grove. It was on the muddy bank, and every now and then

would fly off and return again, whilst uttering the note, 'zit, zit, zit,' rapidly repeated. I several times came within a few yards of it; and from its plumage, note, and flight, I feel sure that it must have been a Water Pipit.

Picus major Linn. **Great Spotted Woodpecker.** Apl. 22nd.
One near the Trent at Littleborough.

Picus minor Linn. **Lesser Spotted Woodpecker.** The keeper saw one in Grove Park, on March 24th, where they nested later in the year.

Cuculus canorus Linn. **Cuckoo.** April 7th. One, near Grove. Another reported.

Asio otus (Linn.). **Long-eared Owl.** Nested in Grove Park plantation.

Falco peregrinus Tunstall. **Peregrine Falcon.** March 10th. Mr. Cordeaux about this date saw a large Falcon fly over northwards at a great height, at Eaton, which he has no doubt was a Peregrine.

Falco æsalon Tunstall. **Merlin.** January 13th. A male here (Grove) this evening, hawking for Larks in a grass field.

Botaurus stellaris (Linn.). **Bittern.** One was shot in the winter of 1892-3 at Newark.

Querquedula crecca (Linn.). **Teal.** Mr. Cordeaux saw Teal on the Idle at Eaton, on March 17th.

Fuligula cristata (Leach). **Tufted Duck.** March 18th. Two on the river at Eaton (Cordeaux).

Columba palumbus Linn. **Ring Dove.** Nest, with young hatched by March 23rd, in Grove Park plantation.

Turtur communis Selby. **Turtle Dove.** May 12th. Three or four feeding in a young wheat-field near Carlton-on-Trent.

Crex pratensis Bechst. **Land-rail.** April 11th. Near Headon Wood. April 12th. A nest of this species, containing two unbroken eggs, was to-day found in a hay-stack near Headon. They must have been picked up with the rakings in hay-time.

Fulica atra Linn. **Coot.** February 28th. The keeper shot one on the moat at Grove. An unusual place for this species.

Charadrius pluvialis Linn. **Golden Plover.** March 17th. Mr. Cordeaux saw a large flock in the meadows at Eaton.

Gallinago cœlestis (Frenzel). **Common Snipe.** Mr. Cordeaux writes, dated March 18th, 'Yesterday I saw in the meadows here (Eaton) four couple of Snipe, soaring and inclined to "drum."'

Totanus calidris (Linn.). **Redshank.** March 20th, N. Two pairs of Redshank in the meadows at Eaton. March 26th. Three pairs in the same place. March 27th. Several pairs by the Trent at Littleborough. March 28th. E. strong, twenty-two pairs at the same place. On April 22nd there were many pairs still at Littleborough.

Numenius arquata (Linn.). **Common Curlew.** April 30th. One passing E. (Grove).

Larus ridibundus Linn. **Black-headed Gull.** April 22nd. Many on the river at Littleborough.

NOTE—FUNGI.

Clavaria fusiformis in Westmorland.—I send you herewith a small portion of fungus found by one of the members of the Darlington Naturalists' Society in the Beelaugh [Belah in Ordnance Map.—ED. Nat.] Valley near Barras, Westmorland. The clump measured about 5 × 4 inches.—GEORGE BEST, Darlington, October 15th, 1894.

The fungus is an uncommonly fine specimen of *Clavaria fusiformis* Sow., a species generally distributed.—H. T. SOPPITT, 25, Glen Terrace, Clover Hill, Halifax, October 17th, 1894.

NOTE—MOSESSES.

Discovery of two rare Mosses near Market Weighton.—In June I had the pleasure of finding two mosses, which, though not absolutely new to the county, have only been recorded once previously, and so long ago that their re-appearance will be welcomed by all Yorkshire bryologists. During the construction of the railway between Market Weighton and Driffield, it was found necessary to make a deep cutting through the chalk at Enthorpe, and the material excavated was utilised in forming the permanent way. It is on these denuded chalk-stones that the minute mosses *Seligeria calcarea* B. and S., and *Seligeria paucifolia* Dicks., are now growing abundantly. The latter was the first found, and on returning for more specimens, the other was discovered.

The history of these plants so far as their connection with Yorkshire is concerned, is very interesting. *S. calcarea* was discovered at Bishop Burton about the year 1798, and is recorded by R. Teesdale in the Transactions of the Linnean Society published in that year. It is not known to have been seen since. *S. paucifolia* is recorded by J. Dickson in his fourth fasciculus of cryptogamic plants, published in 1801, as growing near Wetherby on brick rubble. This material seems to me a most unlikely substance to find it on, as all the other known stations for it are of a similar calcareous formation to that of the Yorkshire Wolds. This plant has not been gathered there since, and Lees, in his West Yorkshire Flora, says: 'unknown; only one old record near Wetherby, never confirmed.' Its southern stations are the north side of the South Downs in Sussex, where it was discovered in 1840 by Jenner, and afterwards by Mitten on Woolsonbury Hill and Box Hill, Surrey, about 1864, and at Dunton Green, Kent, by Holmes. There is one point worth noticing and which I cannot account for. *S. paucifolia* is more abundant at a greater altitude in the parish of Goodmanham, whilst *S. calcarea* chooses a lower level nearer Market Weighton for its habitat.

My specimens have been kindly verified by Mr. M. B. Slater, of Malton, and may now be definitely included in the list of Yorkshire mosses.—J. J. MARSHALL, Pharmaceutical Chemist, Market Weighton, Oct. 14th, 1894.

LINCOLNSHIRE NATURALISTS AT CLEETHORPES.

THE fourth meeting of the Lincolnshire Naturalists' Union was held at Cleethorpes, on Thursday, July 5th, 1894, for the investigation of the sand-hills to the south of Cleethorpes and the pretty country lanes and wooded tracts in the neighbourhood of the village of Humberstone. The members present were by no means as numerous as could have been desired, but what they lacked in numbers they made up for in energy. The party left Cleethorpes Station shortly before eleven o'clock, and proceeded southwards along the coast as far as Bishopthorpe, then turning inland proceeded along a foot-path by the drain-side to Humberstone, then along the high road to Waltham Station, and returning through Thrunscoe. Those members who arrived before the hour advertised for starting, occupied their time in investigating the coast north of Cleethorpes. By 4 p.m. most of the members had returned to the Dolphin Hotel, Cleethorpes, where tea was served, followed afterwards by the general meeting, the President of the Union, Mr. F. M. Burton, F.L.S., F.G.S., occupying the chair.

The 'museum question' was discussed and the sectional reports were then given as follows:—

For the Geological section, Mr. F. M. Burton, F.L.S., F.G.S., reported as follows:—The excursion, so far as geology is concerned, yielded nothing of value. There being so few geologists present the whole party went together, and nothing but ancient and modern river quartz with alluvial beds, covering up the Lower Lias beneath, was met with. Cleethorpes lies at the mouth of the Humber, which, by the aid of its feeders the Trent and the Ouse, drains a very large area, and is continually pouring out silt and sediment on the sea floor. At low water large tracts of estuarine clays are laid bare, the result of the outflow of the Humber, together with the remains of ancient forests, pointing to gradual subsidence of the land within recent geological times. A better spot for studying the effect of a wide river area at its junction with the sea, and correlating it with similar deposits in the past cannot well be found. Thus it is that, on the shore, we find the *débris* of the land mixed with the cast-up produce of the sea; like many an old deposit we come across in the earth's strata. The cliff here, which was formed in the glacial age, and which, before it was cut up into terraces and gardens, was about 40 feet high, consists of a purple stony boulder clay, corresponding with the Hessle and upper purple clays of the Holderness coast. Inland, the Hessle clay is usually reddish brown and mottled, while the purple clays are blue and grey. These

occupy the fen land to the east of the Lincolnshire Wolds, while the chalky boulder clay is met with to the west, between the Wolds and the Oolite cliff.

The Botanical report which follows was presented by the Rev. E. Adrian Woodruffe-Peacock, the Secretary of this section. There were also present Messrs. J. S. Sneath, B. Crow, T. R. Gelsthorpe, A. R. Yeoman, and the Rev. F. O. Oliver. Some good work was done during the day both on the shore and inland. Perhaps the best find, all things considered, was *Chara fragilis* Desv., in one of the Humberstone ditches. But *Diplotaxis muralis* DC., not yet recorded, though no less than four specimens are in the Herbarium, *Ranunculus confusus* Godr., and *Cerastium tetrandum* Curt., were nearly all as good, if more likely to be generally observed. *Lepigonum marginatum* Kock. was the only species found, though two of the *salinum* forms—we cannot call them varieties—are common enough on some parts of the coast, and both species abound together at Leverton, along the Wash foreshore. The lilac-purple flowers of *Statice occidentalis* Lloyd, just opening brightened the damper mud-flats and pool sides, in happy contrast with the delicate shades of pink in the flower-head of *Armeria maritima* Willd. *Eryngium maritimum* L. seems to be dying out before the ever-arriving excursionists. It still manages to exist at Humberstone shorn of its pristine splendour, along with *Convolvulus soldanella* L., in a like, but more lovely, plight. *Atriplex babingtonii* Woods, was rare too. *Trifolium scabrum* L. holds its place on the sea-bank, and from its inconspicuous habit is likely to remain. *Potamogeton friesii* Rupr. was found in the same drain with *Hydrocharis*, our best record, and a dozen other commoner water plants. We must not forget *Festuca arenaria* Osb. The specimens of this plant taken at Humberstone are quite typical, with extensively creeping rootstocks and long stolons, as befits a plant that would live among the loose, dry sand of the wind-tossed dunes of our sea-shores. One plant I fear will never again delight the eyes of the botanist at Cleethorpes, for the shingly-stony spot where it thrived so well has been bodily removed in 'improving' the fishing village of our early recollection into its present state of attractiveness, or else the whole place has been buried by the drifting sand. With this rough bit of ground, the natural haunt of the Ringed Plover—*Ægialitis hiaticula* (L.)—the abiding place of *Silene maritima* With., passed away for ever. For the bird I cannot speak—for the plant I can. It was the only station from which we have specimens on the whole foreshore of the county as far as is known. In conclusion, I must not forget to add that three weary

and thirsty botanists were most kindly and hospitably entertained by Mr. Henry Marshall and family, of Humberstone; and had the pleasure of testing their knowledge by naming the plants in his garden.

No officer of the Vertebrate section was present on the day of the excursion. Mr. F. M. Burton, however, noted the following birds:—Heron (*Ardea cinerea*), Redshank (*Totanus calidris*), Ring Dotterel (*Ægialitis hiaticula*), Arctic Tern (*Sterna arctica*), Cuckoo (*Cuculus canorus*), Blue-headed Wagtail (*Motacilla flava*). The President of the section, Mr. G. H. Caton-Haigh, writes as follows:—MAMMALS: Five species of Bats occur, the Noctule, Pipistrelle, Long-Eared, Daubenton's, and Natterer's Bats, also the Polecat, Stoat, Weasel, Hedgehog, Common, Lesser, and Water Shrews, Short-tailed Field Vole, Bank Vole, Water Vole, Long-tailed Field Mouse, the Hare, Rabbit, and Fox. Badgers have been known to stray as far from the Wolds as North Cotes, and the Otter occasionally frequents the upper waters of the brook which finds an outlet in Tetney Haven. Of cetacea many species have appeared in the Humber at different times, but the only ones likely to be seen are the Porpoise and Bottle-nose (*Tursiops tursio*). Of fishes the Trout, Pike, Roach, Dace, Gudgeon, Carp, Tench, Perch, Eel, etc., are to be found in the ponds, streams, and drains in the district.

Mr. Fieldsend also forwards the following note:—Near Tetney Haven there is a small colony of the Lesser Tern (*Sterna minuta*), perhaps the most beautiful of the Sea Swallows. I remember whilst bathing there one day they came in a body, hovering and screaming, their aerial evolutions often bringing them almost within arms' reach. Afterwards I found their eggs and young amongst the shingle, and should like to have examined them more closely; the old birds, however, kept such a constant and monotonous cry overhead I was glad to leave them in peace—or for peace. The first few pairs arrive about the last week in April. I scarcely think them double-brooded, though the colony receives adult additions far into June; their young are barely feathered by August.

Like the preceding section, the Conchological section was not officially represented on the excursion, but Mr. F. W. Fierke, the hon. sec. of this section, had been over a few weeks before, and supplied a paragraph for the circular that the only records of mollusca in the district which had come to his knowledge were *Bythinia tentaculata*, *Planorbis vortex*, *Limnæa peregra*, *L. stagnalis*, *Succinea elegans*, *Helix aspersa*, *H. nemoralis*, *H. caperata*, *H. pulchella*, *Pupa muscorum*, and *Cochlicopa lubrica*, so that the district has yet to be investigated.

The Entomological section was represented by Mr. R. W. Goulding and Mr. Walter F. Baker. Nothing was seen in the lepidoptera worth noting, though Mr. F. M. Burton has taken *Apatura iris* flying over the meadows near to Clee, *Actebia præcox* in a field of clover, and *Mirina humeralis*, in great variety on the cliffs. The captures were fairly numerous amongst the Coleoptera. In the following account are included those taken by the hon. secs. of the Union, Mr. Walter F. Baker, and Mr. Joseph Coe, when in the district a few weeks before. Proceeding along the sand-hills the first capture was *Ocypus ater*, hiding under a piece of matting, *Bembidium littorale*, *B. lampros*, and *Amara apricaria*, were found in similar situations, whilst a close look amongst the roots of the grass disclosed *Amara fulva*, *Demetrias unipunctatus*, *Longitarsus jacobææ*, and *Cassida sanguinolenta*, the latter being undoubtedly the best 'catch' of the day. The stercoracious matter next occupied attention, and a large number of species were obtained. In fact never since he commenced collecting, has the writer obtained so many species of Aphodii in such a short time. *Aphodius ater* (mostly the rufous variety), *A. constans*, *A. fossor*, *A. hemorrhoidalis*, *A. rufescens*, *A. pusillus*, *A. merdarius*, *A. nitidulus* (very common), *A. punctato-sulcatus*, *A. rufipes*, *A. luridus*, and *A. fœtens*. *A. fimetarius*, strange to say, was conspicuous by its absence. *Ægialia arenaria* was found burrowing beneath asses' dung, as also were *Geotrupes stercorarius* and *Cryptopleurum atomarium*. *Telephorus fulvus* and *Pyrochroa coccinea* were obtained by sweeping, but the wind blew too strongly for that kind of 'hunting' to be very successful, and the sweeping net was replaced by the water-net. In a pond on the sand-hills a quantity of Gyrini were disporting themselves, but all those captured belonged to the variety (or rather so-called 'species') *G. marinus*. *Hydroporus erythrocephalus*, *H. palustris*, and *H. planus*, were in abundance in the drains, together with *Cælambus confluens*, *Haliplus fulvus*, and *H. ruficollis*, *Laccophilus interruptus*, *L. obscurus*, *Helophorus nubilus*, *H. aquaticus*, *Hydrobius fuscipes* (the colour of this species was blue-black, instead of the usual brown-black) and the rather uncommon *Berosus luridus*. In the drain near to the sea some very large *Deronectes assimilis* were obtained. The larvæ of *Dytiscus* and *Acilius sulcatus* were everywhere abundant, and the larvæ of *Hydrobius* were common in one pond. A mishap which here happened to the hon. sec. terminated for him at least, for that day, the pursuit of the Coleoptera. A vote of thanks to the chairman concluded the proceedings.—

W. F. B.

**SPILOSOMA LUBRICIPEDA AND ITS VARIETIES
RADIATA, EBORACI, FASCIATA, ETC.,
IN YORKSHIRE, DURHAM, LINCOLNSHIRE, ETC.**

WILLIAM HEWETT,

*York; Hon. Secretary to the Entomological Section of the
Yorkshire Naturalists' Union.*

Read before the Lancashire and Cheshire Entomological Society, on Monday,
November 12th, 1894.

HAVING read with deep interest Messrs. Porritt's, South's, and Tugwell's notes on the variation of this very variable species—see *Entomologist*, Aug. 1893, xxvi, 247 (W. H. Tugwell); Sep. 1893, xxvi, 257 (R. South); Oct. 1893, xxvi, 296 (G. T. Porritt); Dec. 1893, xxvi, 346 (R. South); April 1894, xxvii, 129 (W. H. Tugwell); July 1894, xxvii, 205 (W. H. Tugwell)—in which the varieties *radiata*, *eboraci*, and *fasciata* are figured, and being very much interested in the *lubricipeda* controversy, I hope that the following particulars obtained from many sources, and after having seen most of the Yorkshire and Durham collections (not merely once, but often on two or three occasions) will tend to throw a little light on this somewhat 'dark' question.

Spilosoma lubricipeda. The type is generally distributed, and I believe common in most localities, although like most other species, it occurs in much greater abundance some seasons than others. Mr. Finlay, of Meldon Park, Morpeth, when looking over my collection a short time ago, informed me that *S. lubricipeda* is rare in the neighbourhood of Morpeth.

The larvæ, when full-fed and about to pupate, are not by any means particular in the choice of their abode, such unlikely places as old kettles, pots and pans of all descriptions, pieces of brown paper, newspaper, old rags, the stalk of a cabbage, or in the pithy branches of the elder; and I have heard of from twelve to sixteen cocoons being taken from one cabbage-stump, whilst as many as 123 cocoons of *S. lubricipeda* have been taken from a piece of old canvas which had been rolled up and thrust into the hedge-bottom. The egg, larva, pupa, and the ordinary forms of the imago are too well known to need any description, so I will at once proceed to the chief feature of this paper, viz., a description of the principal varieties which are known to occur.

VAR. radiata. In addition to the specimen figured in Westwood and Humphreys' *British Moths*, plate xviii, figure 19, 1843, which was taken in Yorkshire, and that figured by Newman in the

Entomologist for 1874, vol. vii, 169, as having been sent him from Mr. Dawson, of Driffield, there is one in the Allis Collection at the York Museum, which I had the pleasure of examining in company with Mr. S. J. Capper, F.L.S., F.E.S., on the 19th October. This specimen, although not so dark as some of the choicest forms of var. *radiata* lately bred by Messrs. Harrison, Young, Tugwell, and Porritt, is to all intents and purposes identical with them, and exactly corresponded with some two dozen specimens of var. *radiata* which Mr. Capper had with him on that occasion. There is neither date, locality, nor name of captor affixed to this, or indeed to any of the specimens in the collection, but I think it can be taken for granted that it is a York or Yorkshire specimen.

The only other record that I have been able to obtain of var. *radiata* having occurred in Yorkshire previous to the introduction of Mr. Harrison's fine form in 1891, is that of three specimens which were taken at rest, not bred, by Mr. Sweeney, at Driffield, some twelve or fifteen years ago; these specimens, which I have had the pleasure of seeing on three separate occasions, are smaller than those bred by Mr. Harrison, but identical in every other particular with specimens sent me by Messrs. G. T. Porritt and W. H. Tugwell, and with which I compared them; they are in fair condition, decidedly aged, and set on household pins. As far as I am aware, I do not see any reason for doubting their authenticity, which I think is beyond dispute.

Thus we have records of six specimens of var. *radiata* having been taken or bred in Yorkshire previous to 1891, and I am firmly convinced that had the works of Darwin and Wallace been more widely read, and the principles of heredity and artificial selection therein explained, better understood and acted upon, we should not have had to wait until 1891 to see this truly grand form bred for the first time in England, as the result of artificial selection.

Mr. Harrison, of Barnsley, whose fine lot of var. *radiata* and intermediate forms I have had the pleasure of seeing, and to whom I wrote for particulars of any variation in *S. lubricipeda* in his district, says:—'I do not remember ever breeding *S. lubricipeda* in any form previous to 1891, in fact my series had been picked up casually, and were only the ordinary form, neither *radiata*, *eboraci*, nor *fasciata*, and I distinctly say any of these three forms do not occur in this district to my knowledge, neither in a wood or any weedy garden,' as reported [see Entomological Transactions (London), November meeting 1892, part 4, page xxix., for my original and true history]. 'My original male was of that form (*fasciata*) and would no doubt be one of the Grimsby pupæ, as I selected the strongest marked

specimen that I had out at the time the female *radiata* came out to pair with. I have kept the original parents.'

Mr. J. N. Young, of Rotherham, to whom along with Mr. Harrison, of Barnsley, many of us are indebted for our series of var. *radiata*, replying to a similar query of mine re variation of *S. lubricipeda* at Rotherham, says:—'I have not bred any variety of *S. lubricipeda* from larvæ collected in this district, in any way approaching to var. *fusciata* or *eboraci*; the form here is very plain, and almost without markings.'

Mr. J. Bloor, of Rotherham, also confirms Mr. Young's statement. Whilst at Rotherham on the 27th October Mr. Young showed me some 120 specimens of var. *radiata*, which he had recently bred from Harrison's strain, also a photograph of 108 of these specimens.

Mr. Young informed me that var. *radiata* pairs more readily with typical wild specimens of *S. lubricipeda* than inter se, and that the offspring from this union were fertile. Much of the vitality in var. *radiata* seems to be lost by in-breeding, especially is this the case with the males, which are very sluggish. I have frequently heard it suggested that var. *radiata* is a distinct species, but the fact of there being no apparent difference in the ova, larvæ, or pupæ, and that when paired with typical wild specimens, the offspring are fertile, seems in my opinion to warrant our assuming that it is a fixed variety only.

There are some entomologists I know who take exception to the larger size of the specimens of var. *radiata*, and urge this as a reason for its not being of British origin, but size, in my opinion, is chiefly dependent upon the supply of food and selection, as all entomologists who breed large numbers of lepidoptera are perfectly well aware. I have specimens of *S. lubricipeda* in my collection, and have seen others, which are to the full as large as any var. *radiata* that I have yet seen.

With regard to the occurrence of the variety radiata in Lincolnshire, several specimens appear to have been bred by Mr. Mossop from larvæ obtained at Saltfleet feeding on elder, August 1836. These emerged in June 1837, and some of the specimens are still in the possession of his nephew, Mr. W. H. B. Fletcher, F.E.S., of Worthing; others were sent by Mr. Mossop to Mr. James C. Dale, father of the Rev. C. W. Dale.

Mr. W. H. B. Fletcher obligingly furnishes me with the following particulars:—'My knowledge of the occurrence of the varieties of *S. lubricipeda* is practically confined to that which is stated in my letter to Mr. Tugwell, in his article in the Entomologist for April

1894, except that there is a slight mistake. Entomologist, xxvi, 257, variety *deschangei* should read Entomologist, xxvi, 257, figure 1. Now this figure 1 comes very near to var. *eboraci* as figured in the Entomologist, July 1894, xxvii, 205. My specimen is not exactly like either, it has the central spot and the interrogation-like spots on the hind-wings, but the fore-wings have less of the *fasciata* marking than the *eboraci* figured Entomologist, July 1894, and much less of the *radiata* markings of Entomologist, xxvi, 257. If, then, var. *eboraci* be a sufficiently defined variety to be worthy of a special name, and not as I am inclined to think, merely intermediate between type and *radiata*, I know it only from fig. 1. I should refer my specimen to it, and say that *eboraci* occurs on the Lincolnshire coast. Next as to var. *fasciata*, I have none among my uncle's moths so boldly marked as that figured in the Entomologist, xxvii., 205, July 1894, but I have two specimens of Mr. Mossop's which are clearly tending to become *fasciata*, all the spots forming the Y are present, but shorter, so that I think Lincolnshire may claim to possess variety *fasciata* also. I have never collected *S. lubricipeda* in Lincolnshire, my knowledge of it there is confined to the possession of seven specimens which came to me with the Rev. J. Mossop's cabinet, containing the remains of his collection, and the information which his widow, my aunt, gave me, to the effect that these moths and others were reared by them from larvæ picked up on sandhills at Middlethorpe, which is close to Saltfleet, from where Mr. Mossop sent Mr. Dale three specimens, xxvii., page 130.'

Reported occurrence of the variety radiata on the East Coast of England. Mr. John Cordeaux, Great Cotes, Ulceby, Lincolnshire, referring to var. *radiata*, says ('Naturalist,' 1888, page 220):—'Almost exclusively peculiar to Heligoland, met with but very rarely in Holland and on the east coast of England.' Mr. T. D. A. Cockerell, Entomologist, xxii, page 148, repeats this statement. Wishing to have this reported occurrence of *radiata* on the east coast of England cleared up, I wrote Mr. J. Cordeaux, asking that gentleman to be good enough to furnish me with particulars of its occurrence, when, where, and by whom taken, and where the specimens might be at present located, in order that, if possible, I could inspect them. Mr. Cordeaux, in reply, stated 'that the notice published in the 'Naturalist,' 1888, was a verbatim translation from the original paper by Monsieur le Baron de Selys Longchamps, Liège, Belgium. The exact words used are: On la recontrée mais plus rarement en Holland et sur la côte oriental d'Angleterre' (page 32). Mr. Cordeaux also states 'that he is unable to speak from his own personal observation on the matter,' but adds, 'probably the author of the

Excursion à l'île d'Heligoland refers to some English authority for his statement, but he gives no reference to this in the original.' Mr. Cordeaux adds, 'the variety is undoubtedly an immigrant to Heligoland, so there is every probability of its occasional occurrence on the east coast.' The following is a translation of the Baron's reply to my enquiries for definite information on the occurrence of the variety *radiata* on the east coast of England:—

'Liège, 7th October, 1894. My dear Sir,—I write you from the country, although I always give my address at Liège, but I shall be in town in eight or ten days, and will then look over my collection, and write you a few notes if I find anything that will be useful for you with regard to the variety *radiata* of *Arctia lubricipeda*, but I am not sure that I possess any other positive information of my own observation except that which I have given in my Excursion to the Isle of Heligoland in 1882. There I saw at Herr Gätke's, the ornithologist, numerous examples which had been reared from eggs; there were amongst them several varieties intermediate between *radiata* and the type. As to Holland, I am convinced that the observation of the country is positive, but I don't remember who was the Dutch entomologist who told me—it could be ascertained. As to the east coast of England, I don't remember where I obtained the information. In Belgium and Holland there has been found for some months melanic examples of *Amphidasis betularia*, but of a black less intense than in Scotland.'

In a further letter dated Nov. 10th, 1894, the Baron says:—'Unfortunately I have nothing to add to that which I have written you with regard to the variety *radiata* (*zatima*) of *Arctia lubricipeda*. I find on looking through my collection that I possess only two examples, which came from Heligoland. In excursions to this island I have seen a box containing numerous examples taken by Herr Gätke, and I quoted the information given by Dr. Staudinger, who said that this variety has been observed in England and in Holland. It does not occur in Belgium.' The remainder of the Baron's letter contains interesting remarks on the variation of *A. fuliginosa* in Belgium and Spain, and of *Amphidasis betularia* near Brussels.

Messrs. Porritt and Tugwell have reared two broods (or at any rate a partial second brood) of var. *radiata* in one season, and this fact is thought by some entomologists evidence sufficient to warrant their refusing to believe in the genuineness of *radiata* as a British form. Personally I do not attach much importance to var. *radiata* being occasionally double brooded, as it seems to me to be merely

a question of forcing. I am not aware that two broods have been produced in one season under other than artificial conditions.

So far as I know, there is no record of *S. lubricipeda* being double-brooded, and Mr. Jackson, of York, informs me that he has never, in his long experience with *S. lubricipeda* (extending over 30 years), known it to be so, even in a single instance, under natural conditions.

The Hull collectors, who also breed large numbers of *S. lubricipeda*, have never been fortunate enough to obtain var. *radiata*, neither have the collectors at Beverley, Bradford, Barnsley, Darlington, Durham, Hartlepool, Huddersfield, Keighley, Rotherham, Selby, Sheffield, etc.

With regard to the variation of *S. lubricipeda* in Durham, Mr. T. Maddison, of Durham, writes :—‘ I have never got anything like a decent variety, nothing in the least approaching the York or Barnsley varieties ;’ whilst Mr. J. E. Robson, F.E.S., of Hartlepool, informs me ‘ that although he has never bred var. *radiata* at Hartlepool or known it to occur there, he has in his series of *S. lubricipeda*, bred from larvæ obtained at Hartlepool, several examples of variety *fasciata*’ and intermediate forms. Mr. William Newman, of Russell Street, Darlington, has six exceptionally fine varieties of *S. lubricipeda*, three males and three females, in his collection, all reared from larvæ obtained at Darlington, one of the males being of the variety *fasciata*, two of the males are of the variety *eboraci*, whilst two of the females have the hind-wings similar to the variety *radiata*, fore-wings almost typical ; he has also bred other varieties corresponding from time to time. These I have seen ‘ chez lui ’ on three different occasions, the last being on the 13th October of the present year when I ran over to Darlington for the special purpose of obtaining detailed descriptions of them for this paper.

I quite agree with Mr. Tugwell in thinking that the explanation of the occurrence of variety *radiata* in Lincolnshire and Yorkshire is to be attributed to the ‘ brought over theory,’ and that the original specimens or parents have come over to this country from Heligoland either by their own unaided flight or else as stowaways on board ship ; the chances of their distribution inland would be materially increased by the ‘ chemin de fer,’ by which means I have frequently known southern insects to be found in wagons arriving in York from the south.

Variety eboraci. This is, in my opinion, by far the most interesting variety of *S. lubricipeda*, and occurs more abundantly in the neighbourhood of York than elsewhere, though it is by no means confined to the environs of our fine old city, or indeed to the

county, as it occurs to my knowledge at Driffield, Darlington, Hull, and also in Lincolnshire, according to Mr. W. H. B. Fletcher's remarks already quoted.

Mr. Carrington remarks (Entomologist, xxiii, page 207) 'that *S. lubricipeda* variety *radiata* (meaning by *radiata* the variety *eboraci*, which, until the introduction of Mr. Harrison's form, was erroneously called *radiata*) only occurred in a timber-yard close to the railway station, between the years 1860 and 1870,' may have been correct at that time (although from the evidence I have obtained of its present distribution, I very much doubt it), but it certainly would not hold good at the present time, as the variety *eboraci* or York form is, and may be, bred from larvæ collected in any parts of the city or outskirts, but is most certainly not so common as one would infer from Mr. Porritt's notes on 'the radiated varieties of the genus *Arctia*,' where that gentleman states that the variety *radiata* (meaning the variety *eboraci*) is not at all uncommon about York.

From some 150 *S. lubricipeda* bred this season from York larvæ, I only got three specimens of the variety *eboraci*, two males and one female; in addition to these some 20 intermediate varieties. Forms of *S. lubricipeda* much darker than the type and approaching, but still distinct from, var. *eboraci* as figured, are certainly not of uncommon occurrence, when the species is bred in considerable numbers; these forms also occur fairly commonly at Hull and Driffield.

I recently inspected the grand lot of varieties of *S. lubricipeda* bred by and now in the possession of Mr. George Jackson, York, his 'small series' consisting of 15 rows, each row having from 20 to 22 specimens, or 315 examples in all, of which about 50 were true *eboraci* as figured by Mr. Tugwell, Entomologist, July 1894. The remainder were principally varieties very closely resembling *eboraci* and connecting that form with the type. The whole of these fine forms had been selected by Mr. Jackson from many thousands of *S. lubricipeda* which he had bred during the last few years.

VAR. fasciata (Tugwell). Mr. Jackson had numerous examples, both male and female, of this form, and several very nearly approaching it. This variety also occurs not uncommonly at Scarborough, Hull, Darlington, and Driffield. Some half-dozen examples had the hind-wings marked very much like those of the variety *radiata*, the fore-wings not so strongly marked as in *eboraci*. For this variety, which is recurrent, and of which I have two in my collection from Hull and Driffield respectively, and which also occurs at Darlington, I would propose the varietal name of '*semi-radiata*.' Another uncommon variety has five small dots on each of the fore-

wings, arranged as follows :—One in the centre of the costa, two near the tip, and two in the centre of the inner margin, the hind-wings being spotless. Five of the specimens were very interesting varieties and quite distinct from either *eboraci* or *fasciata*, being identical with figure 1 E on plate 76 of Barrett's 'Lepidoptera,' indeed this figure is drawn from a specimen formerly in the possession of Mr. Jackson. This variety is most certainly much rarer than any other of the known varieties excepting, perhaps, that extremely rare form in which the spots are almost, if not entirely, wanting from both front and hind wings; of this form Mr. Jackson possesses two examples.

The only immaculate specimen I have seen or heard of is that in the possession of Mr. S. J. Capper, of Liverpool, and which I had the pleasure of viewing when looking over that gentleman's magnificent collection in August 1893; probably this specimen is unique; it is a white female.

Mr. Jackson has bred *S. lubricipeda* from larvæ collected all round York, and not merely from one particular locality, for the past thirty years, and during the past twelve in great numbers, but has never bred *radiata*, nor any form very nearly approaching it.

Mr. Robert Dutton, of York, has some twelve examples, seven males and five females, of variety *eboraci*, and one or two of the variety *fasciata*, as well as numerous intermediate forms; these he had selected from a great number of specimens reared from York larvæ.

In the collection of the late Mr. Robert Cook, of York (which, through the kindness of his widow, I recently had the pleasure of inspecting), there are three or four forms corresponding to the variety *fasciata*; one of them had both fore- and hind-wings of a uniform dark ochreous colour, the fore-wings especially so. There is a very similar specimen, only with not such pronounced markings, in the Allis collection.

I have this year bred some 500 *S. lubricipeda* from larvæ and pupæ obtained from Hull, and from these I got some very nicely-marked forms, including two examples of the variety *eboraci*, both females, and some half dozen *fasciata*; also an example (female) having the hind-wings similar to var. *radiata*, i.e., smoky black, the basal area, wing-rays and fringe being cream coloured; the head and thorax cream coloured; body yellow, with six black spots down the middle and on each side; antennæ simple, fore-wings rather thickly marked. This is the variety for which I propose the name of *semi-radiata*. I have a very similar specimen, also a female, taken at rest near Driffield, but this has the fore-wings typical; nearly all the forms I selected from the Hull lot have this feature

peculiar to them, viz., that the hind-wings are more thickly marked in the female than are the York forms.

Mr. W. H. Fletcher, writing of the variation of *S. lubricipeda* from Hull, says:—‘From the Hull pupæ of *S. lubricipeda* I bred some strongly-marked specimens in 1893. Luckily I had a pairing of two of them, and have bred this year several moths of the *fasciata* type, and the rest of the batch with well-pronounced tendencies towards it. From two of the best marked specimens I have again obtained pupæ.’

Mr. G. T. Porritt by crossing a female var. *fasciata* with a male var. *radiata* produced specimens of *radiata* forms nearly approaching *fasciata* and variety *eboraci*, thus showing that heredity holds good in this species, and Mr. Tugwell suggests that the York city form resulted from just this kind of cross, and after fully considering the pros and cons of the theory, I think it to be the only satisfactory explanation to be arrived at.

The Rev. C. D. Ash, B.A., of Skipwith, near Selby, informs me ‘that in 1880 he took on the sandhills, a little north of Mablethorpe, a male *S. lubricipeda* almost identical in markings with variety *eboraci*. The ground colour was very pale, and the black streaks on the costa and inner margin were not so pronounced.’ ‘At Saxby, Lincolnshire, in 1893 he only found the type.’

The Rev. G. H. Raynor, of Panton Rectory, Wragby, informs me ‘that he has never taken any varieties of *S. lubricipeda* in Lincolnshire.’

Mr. Allan Nesbitt, of Llandago, Chepstow, says that *S. lubricipeda* ‘varies little with him.’

Mr. D. Chittenden, of Ashford, Kent, says ‘that specimens of *S. lubricipeda*, which he has bred from Ashford and neighbourhood, are very much lighter than some selected examples which I sent him.’

Referring to Mr. Riches’ communication to Mr. South (see Entomologist, December 1893, page 347) that he had never bred a variety or even seen the species in this locality—viz., Hornsey.

Dr. Riding, M.D., Buckerel Lodge, Honiton, in a letter to me referring to some selected examples of *S. lubricipeda* which I had sent him, and which though much darker than the type were not *eboraci*, says ‘that three varieties which he possesses, and which were obtained by him about 1870 on Hampstead Heath, are certainly more marked than any of those I had sent him,’ and on Dr. Riding pointing this out to Mr. South, that gentleman stated ‘he was in the habit of taking as strongly marked forms as Dr. Riding in his (Mr. South’s) garden at St. John’s Wood, London,’ at the same time Dr. Riding says that the Honiton specimens ‘were less marked than those I had sent

him from York, though the buff ground colour seems decidedly more intense in the male.' I can fully endorse Dr. Riding's statement, as I saw the specimens he alludes to when looking through his collection at Buckerel Lodge, Honiton, in August last.

With regard to the all important question which has been and is repeatedly asked me by very many entomologists—viz., 'Do you think the introduction of var. *radiata* to be genuine?' In order that no misunderstanding may exist as to what I believe or do not believe, I may say as the result of all my investigations, I am firmly convinced that it is genuine, and that Mr. Harrison is entitled to our warmest congratulations for his marked and well-merited success.

'Le bruit court' that Mr. Harrison has still another and perhaps more interesting surprise in store for us, the result of careful artificial selection on his part. This I will leave him to announce, and lest 'je decouvre le pot aux roses,' will merely add that the species selected comes from the same interesting genus *Arctia*. In conclusion, I desire to thank most heartily all those gentlemen whose names I have mentioned in this paper (also very many others whose names do not appear), for the material aid they have rendered me, both by their kind replies to my enquiries and for affording me special facilities for the inspection of their collections.

On Nov. 10th, since writing the above, I journeyed to Crosland Hall, near Huddersfield, the beautiful home of Mr. G. T. Porritt, F.L.S., F.E.S., expressly to view that gentleman's series of *S. lubricipeda* and its varieties, by far the finest series that it has yet been my pleasure to behold, consisting of 128 specimens, and made up as follows:—Seven males and five females, selected examples from York; two males and one female, typical, bred in 1894 from larvæ obtained at Morecambe, Lancashire, 1893; four males and three females, typical, bred in 1894 at Huddersfield; 15 males and 14 females, of the variety known as *fasciata*, from Harrison's strain; 16 males and 17 females, bred from cross between male *radiata* and female *fasciata*, including the original parents (a truly grand lot of forms), similar to *eboraci*, leading up to and including specimens of *radiata*; 22 males and 22 females of variety *radiata*, selected examples, one of them, a male, being unusually dark, and another, a female, having the fringe black instead of white; this form, Mr. Porritt tells me, is very rare.

NOTES AND NEWS.

We note that Mr. P. B. Mason's kindness in allowing students the use of his splendid collections has been rewarded by a new species of *Prosopis* being named *masoni* in his honour by Mr. Edward Saunders, who has given in the Entomologists' Monthly Magazine for September last the continuation of his valuable list of Additions and Corrections to the British list of Aculeate Hymenoptera.

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ECHINODERMATA, 1884 to 1892.

THE present instalment has been compiled and edited by
WM. DENISON ROEBUCK, F.L.S.

It, like the bibliography of Crustacea, includes the record of much valuable work done by the Liverpool biologists, in praise of whose work it is hardly possible to say too much.

- ANON. [not signed]. Isle of Man.
Liverpool Marine Biological Committee [dredging, etc., off Isle of Man, at Easter 1889; *Palmipes membranaceus*, *Asterias rubens*, *Echinus esculentus*, and *Spatangus purpureus* noted as found]. Research, May 1889. p. 203.
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Cheshire, Lanc. S.
- F. JEFFREY BELL.
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P. M. C. KERMODE.

Isle of Man.

Address by the Retiring President . . . Delivered . . . March 11th, 1886 [gives titles of papers dealing with the Manx fauna; and also mentions specially *Cribella oculata* Penn., *Uraster rubens* L., *Solaster papposa* L., *Echinus sphaera* Müll., *Amphidotus cordatus* Penn., with localities, as additional]. Back Trans. Is. of Man N.H.S., i., 71; published with Yn Lioar Manninagh, Oct. 1889.

THOMAS SCOTT.

Isle of Man.

[Palmipes membranaceus Retz. not uncommon off the Isle of Man (Forbes, Brit. Starfishes)]. Proc. N. H. S. Glasg., 26th Oct., 1886, New Series, vol. 2, part 1, 1886-87 (pub. 1888), p. xv.

GEORGE SWAINSON.

Lanc. W.

Saunterings along the Coast. I.—Ribble Estuary [between Lytham and St. Annes, in March; *Asterias rubens* and *Echinus esculentus* noted]. Wesley Nat., Sep. 1888, pp. 205-6.

GEORGE SWAINSON.

Lanc. W.

Saunterings along the Coast. II.—Blackpool [*Ophiura albida* and *Echinocardium cordatum* noted]. Wesl. Nat., Oct. 1888, p. 232.

GEO. SWAINSON.

Isle of Man.

On the Dalby Rocks [Isle of Man; list of captures in August 1888; *Ophiocoma rosula*, *Ophiura albida*, *Asterias rubens*, *Asterina gibbosa*, *Echinus esculentus*, and *E. miliaris* enumerated]. Wesl. Nat., Nov. 1888, p. 267.

G. SWAINSON.

Isle of Man.

Results of Dredging Excursion to Dalby, Aug. 1888 [enumerated; *Ophiocoma rosula*, *Ophiura albida*, *Asterias rubens*, *Asterina gibbosa*, *Echinus esculentus*, and *E. miliaris*]. Vannin Lioar, Jan. 1889, p. 14.

GEO. SWAINSON.

Isle of Man, Lanc. W.

Saunterings along the Shore.—IV. The Echinodermata (Star Fishes, &c.) [*Asterias rubens*, *A. aurantica*, *Ophioglypha lacertosa*, *Ophiocoma rosula* (Isle of Man), *O. bellis*, *Asterina gibbosa* (I. of Man), and *Solaster papposa*, referred to as found near Lytham and Blackpool, or at the Isle of Man]. Wesl. Nat., May 1889, pp. 65-71.

GEO. SWAINSON.

Isle of Man.

Sponge Hunting on the Manx Coast. Peel and Port St. Mary [also noting scores of 'the small grey brittle Star fish' (*Ophiocoma neglecta*) on the coralline in the pools at Kallow Point]. *Wesl. Nat.*, Oct. 1889, p. 196.

GEO. SWAINSON.

Isle of Man.

Among the Sea-Urchins [at Port Erin, Isle of Man; *Echinus sphaera*, *Spatangus purpureus*, *Brissus lyrifer*, *Amphidotus cordatus*, and *Cidaris papillata* referred to, some of them structurally and biologically described]. *Journ. of Microsc.*, Jan. 1890, pp. 9-18, and plate 1.

GEO. SWAINSON.

Lanc. W.

Among the Sea Urchins [on the West Lancashire Shore; *Echinocardium* (or *Amphidotus*) *cordatum*, *Synapta inherens*, *Echinus esculentus*, *E. miliaris*, etc.]. *Journ. of Microsc.*, Oct. 1890, pp. 260-268, woodcuts, and plate 18.

CHARLES H. H. WALKER.

Isle of Man.

Tiding at Easter-tide [in the Isle of Man; *Echinus sphaera* mentioned as seen]. *Young Nat.*, July 1890, p. 123. [*Echinus sphaera*, *Ophiothrix pentaphyllum*, 'Palimpes (sp.?)' noted]. *Young Nat.*, Nov. 1890, p. 216-220.

NOTES—LEPIDOPTERA.

Scarcity of Lepidoptera in Sherwood Forest in 1894.—On the 13th of August last, I commenced a short entomological outing in Sherwood Forest, and remained there until the 17th. My stay would have been prolonged had there been anything to do, but the dearth of insect life was more extraordinary I think than anything of the kind I had ever experienced. Sugar (which, according to my experience, is almost always a success at Sherwood, whatever it may be elsewhere) was this year an absolute failure. All four evenings it was tried on the well-known ground, but only one *Euperia fulvago*, with a very few *Xylophasia polyodon*, *Cosmia trapezina*, a single *Orthosia suspecta*, and perhaps one or two other odd things, visited it. And scarcely anything was to be seen on the wing either in the daytime or at dusk, exceptions being *Noctua dahlii*, of which a fine series was netted as they flew along the rides (altogether ignoring the sugared trees close by); *Scoparia truncicolalis* in plenty about oak trunks; the pretty *Crambus pinetellus* fairly common, and *C. inquinatellus* still more so; several *Agrotis tritici*, all of an almost black form, on ragwort flowers; two more *Euperia fulvago*, damaged evidently by birds or bats; with odd *Platypteryx falcula*, *Coremia unidentaria*, and a few still commoner species to complete the list. Two mornings were devoted to lawn beating, the total result being a dozen or less of the very commonest species, *Orgyia pudibunda* and *Amphydasis betularia* being about the best. Pupa digging produced one *Agriopsis aprilina*, and one probably *Tæniocampa cruda*. Altogether a most sorry business, and as great a contrast to former expeditions to the same ground as could well be imagined. Why sugar should have been such a total failure almost everywhere this year is a mystery. There being so much honey-dew in Yorkshire and the country generally, many lepidopterists attributed the cause to it, but at Sherwood there seemed to be no trace of it, the foliage of the trees being as dry as possible, yet the results were precisely the same as elsewhere.—GEO. T. PORRITT, Crosland Hall, Huddersfield, November 16th, 1894.

Olive-banded varieties of *Bombyx quercus* in Mid-West Yorkshire.—A few days ago Mr. Wm. Hewett, of York, brought to me for examination two specimens (male and female) of this rare form of *Bombyx quercus*. Both were from one of the West Riding Moors, in 1893; the female reared from a larva, and the male taken along with some ordinary specimens by 'assembling.' I have a male of the form taken by myself on Crosland Moor, Huddersfield, as recorded in the 'List of Yorkshire Lepidoptera,' but had never before seen a female, and the form in either sex is of the most rare occurrence in Britain.—GEO. T. PORRITT, Crosland Hall, Huddersfield, November 16th, 1894.

NOTES—COLEOPTERA.

Bembidium nigricorne at Ilkley.—At Ilkley, Rumbold's Moor, in 1891, I took a pair of the rare *Bembidium nigricorne*. This was omitted from my notice in the Ent. Mo. Mag. for Dec. 1891, as I only discovered these treasures some time afterwards, and took them to Canon Fowler for confirmation. I fancy the species will be found to be new to Yorkshire.—ALFRED THORNLEY, South Leverton Vicarage, Nov. 2nd, 1894.

Coleoptera at Theddlethorpe, July and August 1893: Additional Notes.—The list of my Theddlethorpe coleoptera captures in the Naturalist is imperfect, one or two better things being left out. The most important omissions are:—*Anaitis ocellata* (1), *Heiophorus nubilus* (common), *Dyschirius impunctipennis* (1), *Otiorhynchus ovatus* (in abundance), *Ceuthorhynchideus troglodytes*, *Ceuthorhynchus erysimi*, *Philhydrus melanocephalus*, *Octhebius bicolor*, *Celambus inaequalis*. Moreover, these beetles were all taken during July and August, 1893, the hot year; and but for my ill-health I should have taken many more, the locality is an excellent one.—ALFRED THORNLEY, South Leverton, Nov. 2nd, 1894.

[The imperfections in the former note are caused by its having been taken at second-hand and not sent direct by the writer.—Eds. Nat.]

NOTES—ORNITHOLOGY.

Crossbill and Rose-coloured Pastor in Yorkshire in 1894.—When at Beverley a few days ago, Mr. Stuart, taxidermist of that town, showed me five specimens of the Common Crossbill (*Loxia curvirostra*), three males and two females, which had recently been obtained at Beverley within a stone's throw of the fine old minster; also a Rose-coloured Pastor (*Pastor roseus*) shot at Aldborough, Yorkshire, this season.—WILLIAM HEWETT, York, October 28th, 1894.

Albino examples of the Jay near York.—I recently had the pleasure of examining two lovely and perfect albino specimens of the Jay (*Garrulus glandarius*), both of which were shot during July, 1893, in a wood situate at a short distance from York; they were young birds but in full plumage. Pied or partially pied specimens of the Jay are extremely rare. The eyes were of the usual colour, viz., blue, and on questioning the person who shot them as to whether this was not a mistake on the part of the taxidermist he assured me that he had particularly noticed the colour when he shot them and that it was blue.—WILLIAM HEWETT, York, October 28th, 1894.

Breeding of the Hawfinch near Leeds.—On the 25th of June Mr. William Kirkby brought me a specimen of a nestling Hawfinch (*Coccothraustes vulgaris*) taken alive a few days before in Hawkesworth Wood, near Leeds. The record is of interest as it gives a new breeding-place in Yorkshire for this bird. Should ornithologists wish to see it, they will find it in the case, in the Bird Room of the Leeds Museum, which I have prepared to illustrate the 'Structure and Uses of Feathers.' The nestling shows in a marked manner a featherless space (*apterium*) on the ventral or inferior aspect.—HENRY CROWTHER, F.R.M.S., The Museum, Leeds, November 20th, 1894.

Yellow-browed Warbler in East Yorkshire.—Mr. George C. Swailes informs me that he obtained three examples of this rare little Eastern Asiatic bird (*Phylloscopus superciliosus*) in his nursery gardens at Beverley on the 8th, 13th, and 15th of October last; and he asks me to record the interesting fact in 'The Naturalist.' This bird is an addition to the Fauna of Yorkshire; though it is believed—and, no doubt with very good reason—to have been *seen* on at least one occasion, yet it has never before been obtained in the county. The occurrence of three specimens in the same locality of so rare a visitor to Britain is also extremely interesting, and it is one that is unprecedented in the bird's history as a British species. One of these specimens, a fine male, has been acquired for the collection of British Birds in the Edinburgh Museum. All the three specimens were males.—WM. EAGLE CLARKE, Edinburgh, November 14th, 1894.

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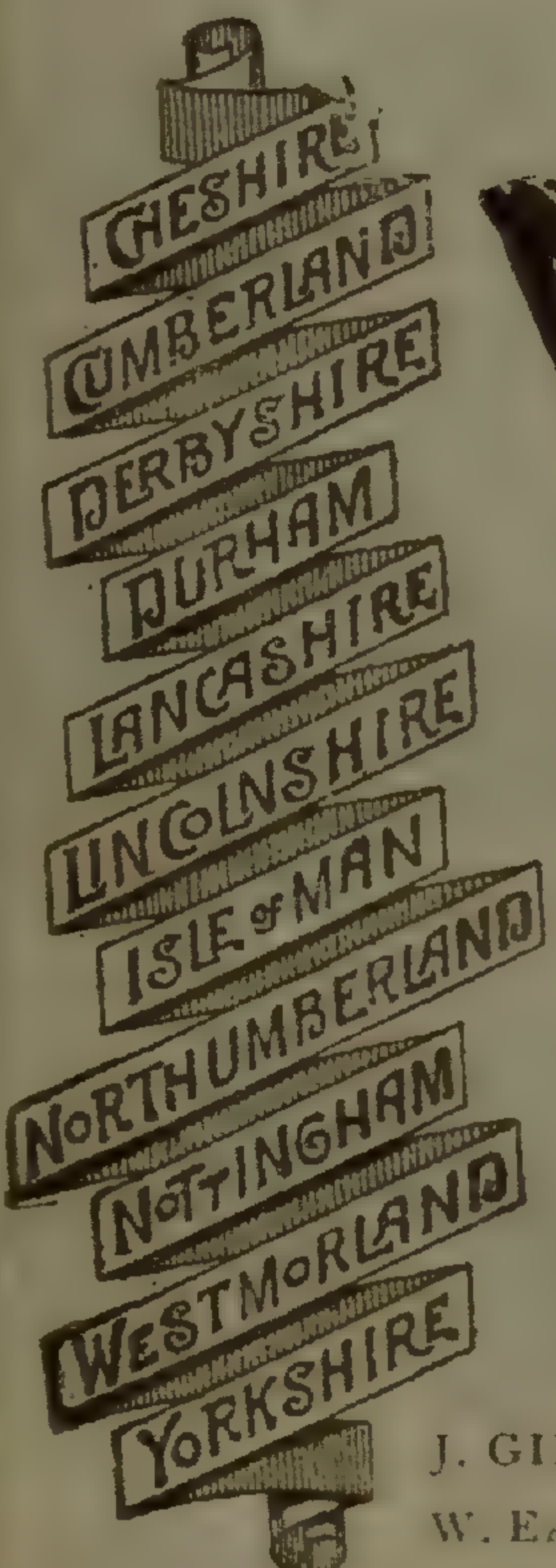
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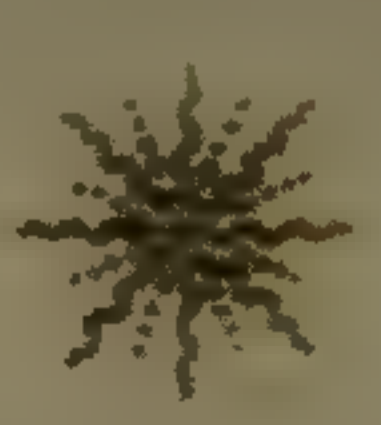
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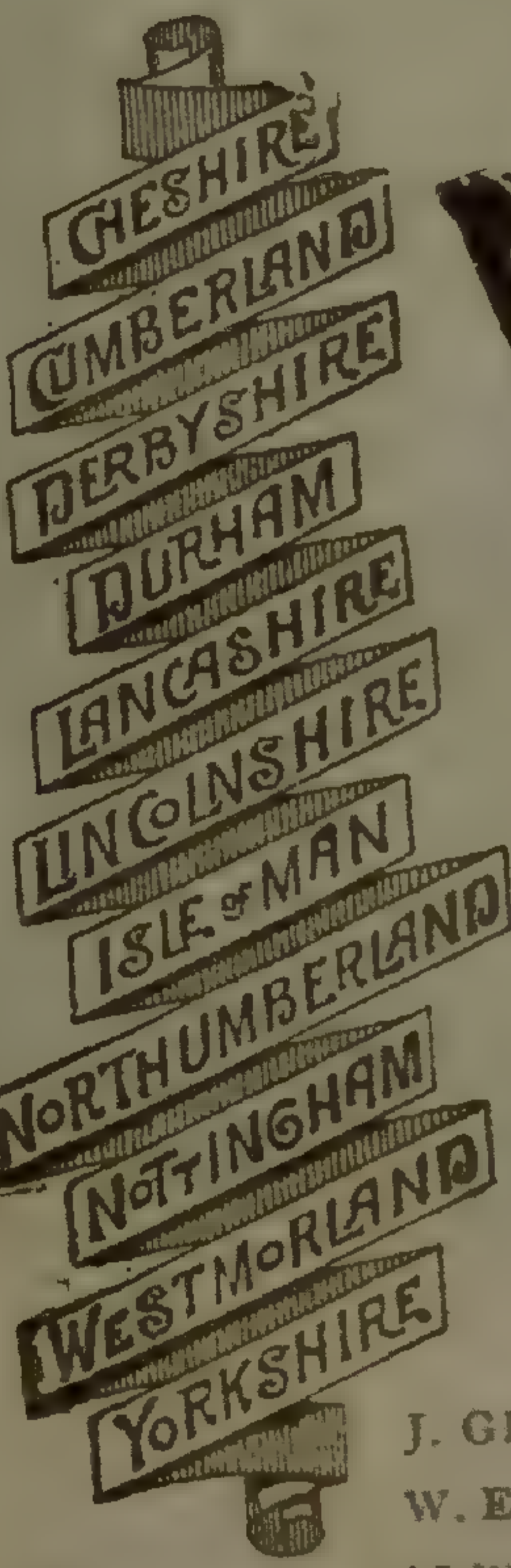
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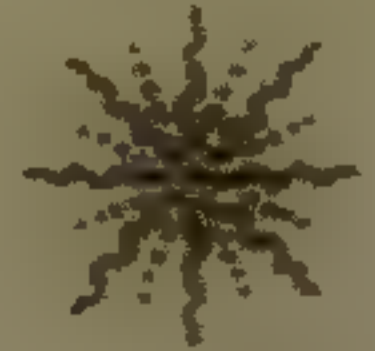
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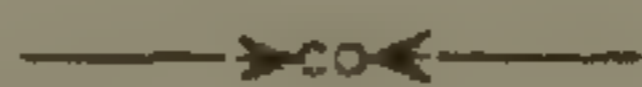
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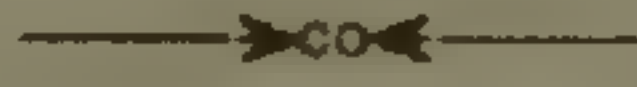
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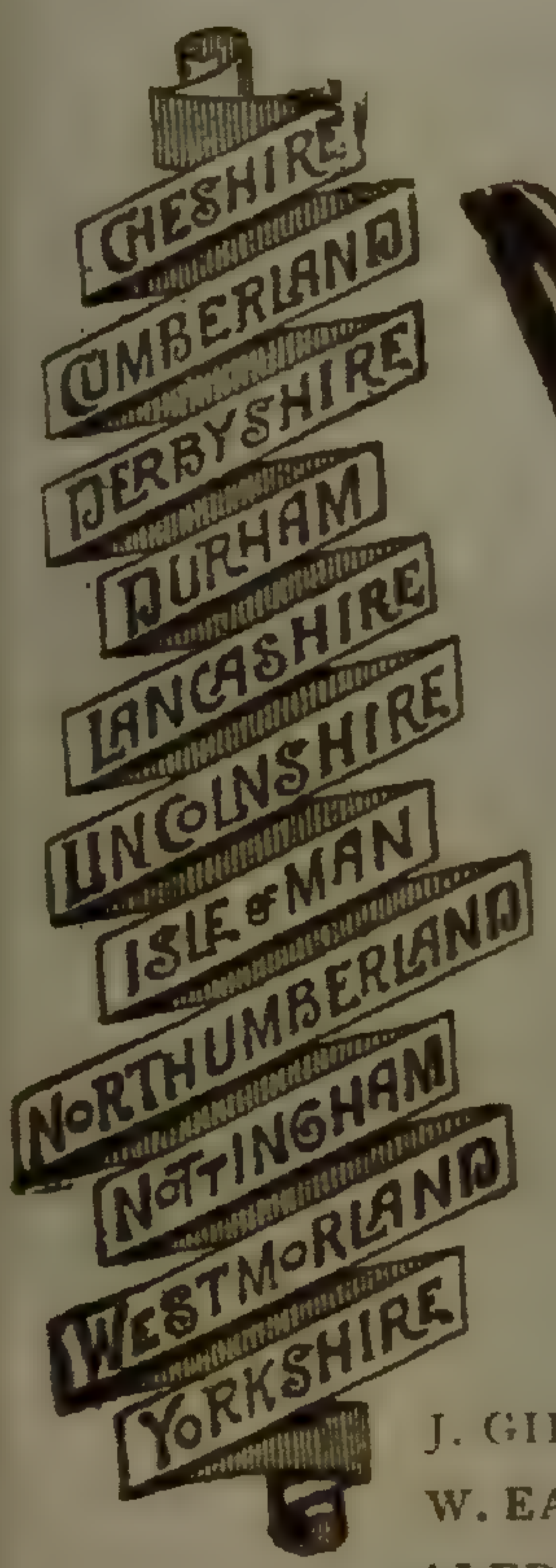
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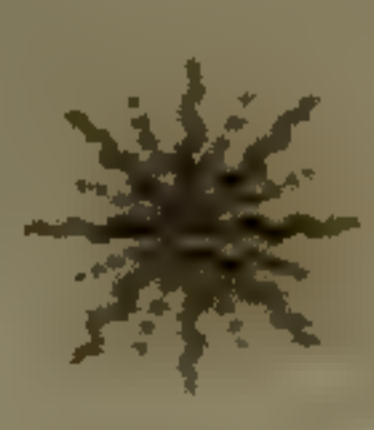
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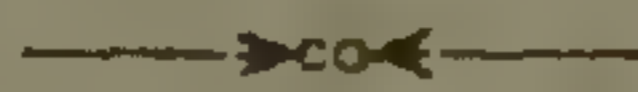
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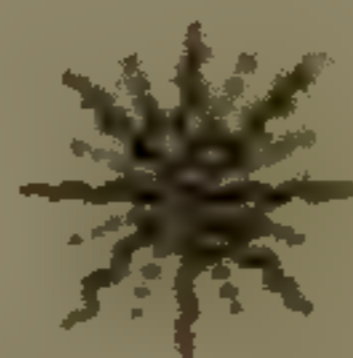
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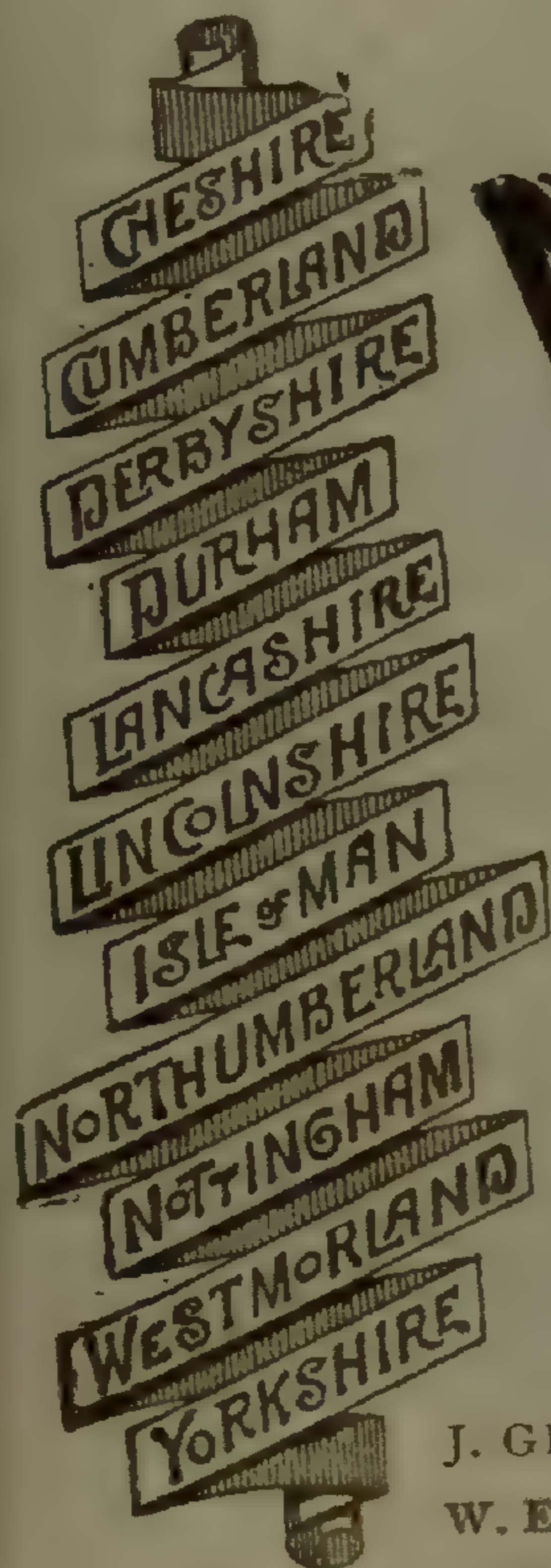
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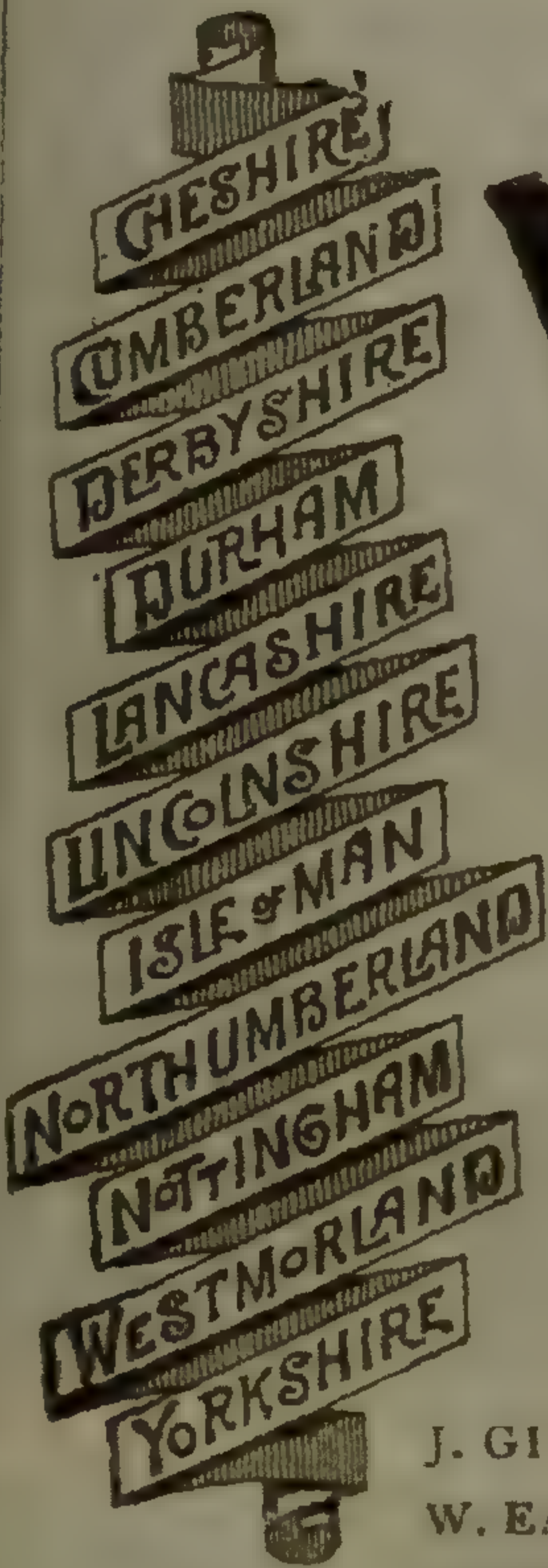
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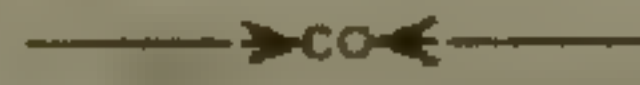
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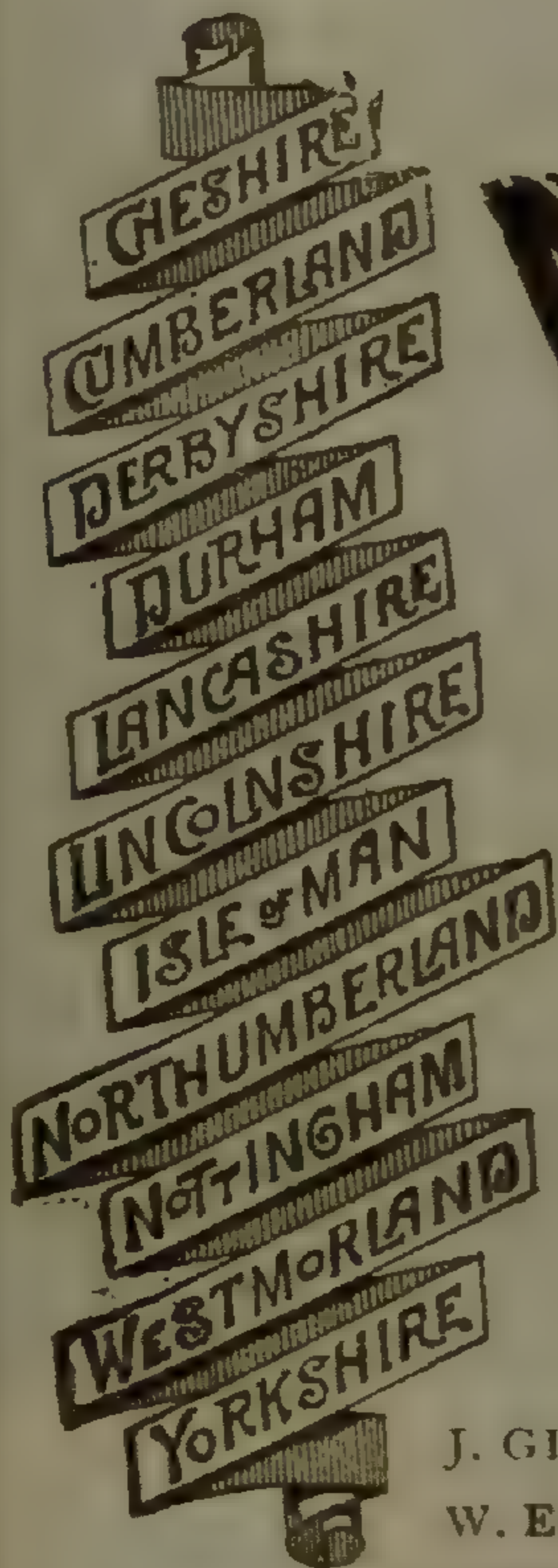
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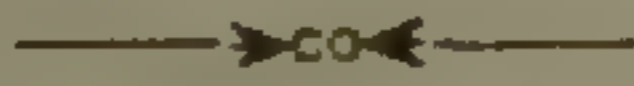
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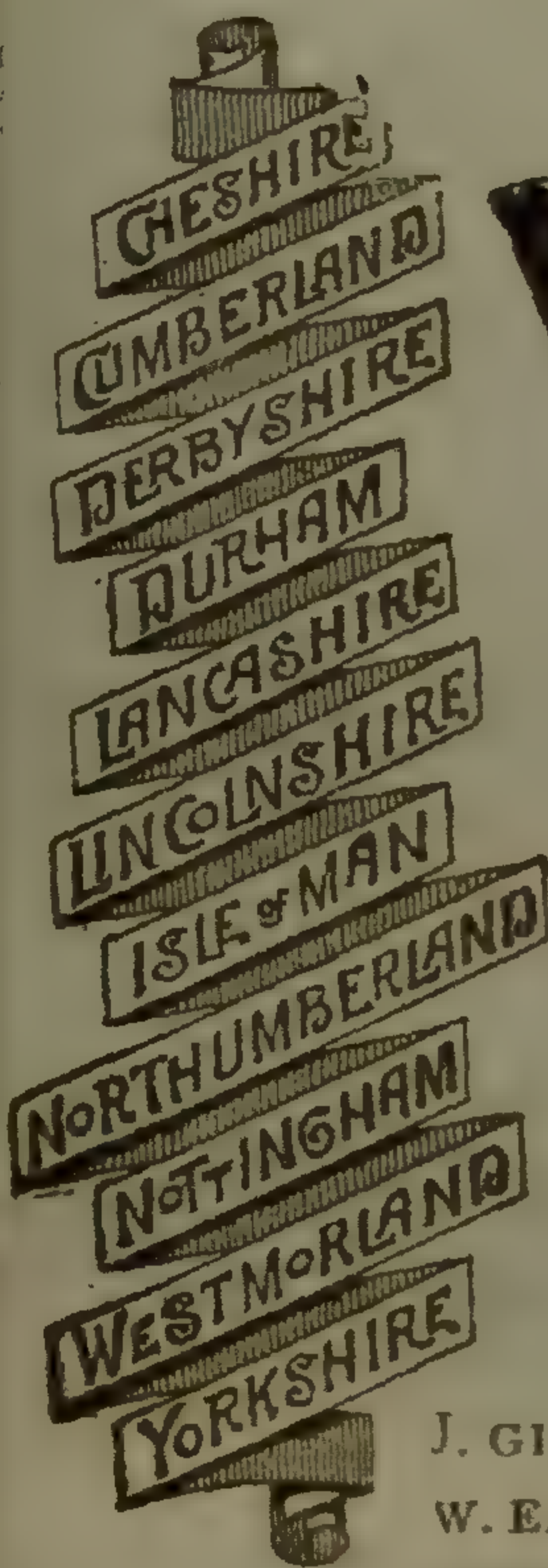
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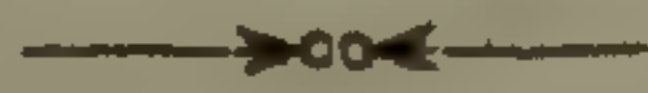
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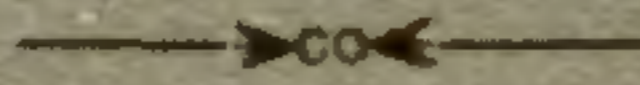
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