

THE VASCULUM

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Edited by
T. C. DUNN, B.Sc.
THE POPLARS, CHESTER-LE-STREET

BY THE WAY

Secretaries of Societies and other contributors to "The Vasculum" are invited to send their notes to the Editor before 15th June, 1974. Authors of longer articles suitable for the October edition, should aim at having them completed and in my hands by August 31st.

SUBSCRIPTIONS

We would like to remind you all that subscriptions became due on January 1st. If you have not already sent your cheque or P.O. to the Hon. Treasurer, would you please remember to do so as early as possible. The bills come in very regularly and without any hesitation the treasurer would like to be able to pay them. He cannot unless you are similarly prompt in your affairs.

With these printing bills in mind, and their inevitable increases due to inflation, we would urge all readers once more to do their very best to increase membership. This is the only way for the Vasculum, in its present form, to survive. We have always thought that more Associate Members should become full members of the Union and thereby ensure the survival of the journal and at the same time take a more active part in the running of the Union's affairs. Through these pages, we invite applications for full membership from these already confessed naturalists.

NEW SOCIETIES

We have the greatest pleasure in welcoming two new societies to our ranks. The first of these, Hartlepool Natural History Society, has arisen spontaneously to cater for the needs of the area at the mouth of the Tees. It affords proof that Natural History in Durham County is not only as alive as ever but is on the move once more.

The other is the Field Section of the Westwater (Northumberland) Lakes Society. The Society as a whole and its Field Section have been in existence for a number of years now and it is very pleasing to be able to welcome the naturalists to the Union. The Westwater Lakes Society has the lease of Bonnyrigg Hall, near Bardon Mill, together with adjacent land and Greenlee, Broomlee

and Crag Loughs. The Field Section is concerned with the natural history of the area, but outings to other places occasionally take place also. For years now the only other Natural History Society for Northumberland people, to be affiliated to the N.N.U. has been the N.H.S. of Northumberland, Durham and Newcastle upon Tyne, sometimes known as the " Hancock Natural History Society".

We wish the two societies every success and look forward to meeting their members in the field.

PONDS

We have often written about the disappearance of ponds from our northern countryside. A short note by Alan Bennett in the Daily Express of 15th March shows that it is a national problem. Britain's ponds are vanishing at the startling rate of 100 a week. Since the war 100,000 have gone.

Now the country is being urged to do something about it by the " Save the Village Pond " campaign. The British Waterfowl Association, backed by the Ford Motor Company, is out to arrest the decline. Surprisingly, the impetus for the campaign comes from London's Park Lane. Mr. James Heard works in the City, lives in Wiltshire and is saddened by the demise of the duckpond. He is president of the Waterfowl Association. His idea is to get the community involved in providing the labour, while his organisation is to provide the expert advice for suitable rehabilitation plans.

THE BRITISH CALOPTILLIAS

These are tiny little moths, Microlepidoptera, which few people will have noticed, but which are very beautiful under a hand lens. Nearly a hundred and forty years ago Stephens (1835) thought that there might be two species masquerading under the same name, "*Gracilaria tunbergella*" Fab., now called *Caloptilia alchimiella* (Scopoli). It was not until two years ago (1972) that he was proved right by Herr E. Jackh. Recently, Col. A. M. Emmet has written in the Entomologists' Gazette of the differences in appearance and in genitalic structure of the two moths. (Ent. Rec. 24, No. 4, 1973). As a result of this article the Editor inspected more closely, his series of eleven moths under the label of *C. alchimiella*. One of these was immediately recognised as the new species *Caloptilia robustella* (Jackh), but just to be absolutely sure it was sent to Col. Emmet to check. He agreed with the identification.

The label on the moth says " 3.vii.58, Easby,N. Yorks." This is the Easby between Great Ayton and Kildale in v.c.62. This is, of course, a new record for v.c.62 and, in all probability, for the whole of Yorkshire, as Col. Emmet states that at present the moth has only been recorded from Essex, Kent, Surrey, Hertfordshire, Oxfordshire, Berkshire, Hampshire and Dorset.

As far as is known the life histories of the two moths are similar, both of them using oak as foodplant during the larval

stages. The moths themselves are not difficult to separate once the peculiarities of wing pattern are suitably magnified. It seems quite certain that further records in our area are bound to come to light during the next few years, for such a discontinuous distribution as at present known is very unlikely. Who is going to be the first to pick it up in Durham or Northumberland ?

THE SOCIETIES

THE NORTHERN NATURALISTS' UNION

The fiftieth Annual General Meeting was held in the Hancock Museum, Newcastle upon Tyne on 23rd March, 1974, by kind invitation of the Natural History Society of Northumberland, Durham and Newcastle upon Tyne.

During the short business meeting, the Hon. Treasurer reported a loss on the year's working of £182.98, a consequence of the escalating costs of printing the *Vasculum*. As a result, a smaller October edition had recently been printed in order to save money and further economies were envisaged. It was suggested that a cheaper method of printing might be tried. Some solution like this had to be attempted, as the reserves which were in the bank when the enlarged editions were inaugurated, had all been used up. The other safeguard was to recruit more new members and the Treasurer appealed strongly to every member present to do his bit.

In the report from the Editor, Mr. Dunn thanked authors for the prompt and generous way in which contributions had come in during the year. In fact, more copy than could be printed had arrived. This was a very healthy sign, and the Editor was now in the position of being able to pick and choose to such an extent that readers should see some improvement in the quality of the material published.

The field report was read on behalf of Mr. J. Thompson and the secretary reported on the increase in membership during the year. This was quite considerable but more still required to be done in this direction. Details of the proposed summer outings to Castle Eden Dene, Bollilhope Bum and Harbottle Crags were then given and the dates of the two junior outings settled.

A request from the Defenders of Essex in their fight against the establishment of the proposed Maplin Airport was considered and our moral support is to be given to them. A similar request from the Teesmouth Bird Club to object to proposals for the further industrial development of Seal Sands was also given our support and Miss M. Oates was proposed as our representative on the coordinating committee.

The business was concluded by the election of officers for 1974, when Mr. John Bradley took over as President and called upon the retiring President, Mr. E. Hinton-Clifton to give his lecture entitled, "Chagos".

He had been a member of a joint services expedition in the winter of 1972/73, when another member of the N.N.U., Dr. D. Bellamy, had also been a member of the party. In his introduction the preliminaries to the expedition such as a course in Marine Biology, a Survival Course and general background information were described. The journey, undertaken by the R.A.F. and R.N. was reasonably short but plans for a campsite and for water supplies had to be changed in the light of conditions on the island, a typical coral atoll of about six islands known collectively as the Egmont Is. The lecturer then proceeded to show, by means of his own colour transparencies, the peculiar vegetation and fauna of the island. At the same time it was emphasised that the whole biological complex was a dynamic one, and examples of present changes were shown from time to time. It was thought that examples of several species new to science had been brought back. These were still under examination by various specialists.

At the end of the lecture, Mr. Dunn gave a short vote of thanks, after which most people adjourned to the nearby laboratory for tea, kindly prepared and served by Mrs. D. Hall and Miss J. Vincent. On the benches were exhibits by Mr. Hird of pressed orchids, by Mr. Stubbs on plant galls of those species to be the subject of a pilot survey in Durham and N. Yorkshire during 1974, by Mr. Dunn of moths and butterflies, by Mr. Derek Hall of his beautiful enlargements of photographs of various biological subjects, by Mr. Dennis Hall of seaweeds and lichens, by Mrs. Gibby of postage stamps depicting plants and animals, by Mr. I. Wallace of some moths of Northumbria including a new county record and of live caddis fly larvae of *Potomophylax cingulatus*, by Miss Dunning of a recently killed Barn Owl which had been collected on her way to the meeting, and by Mr. E. Hinton-Clifton of several pieces of coral rocks from Chagos. These exhibits were browsed over and talked about with great interest until we finally had to leave because of the late hour.

ANNFIELD PLAIN AND STANLEY NATURALISTS' FIELD CLUB

The Annual Meeting and dinner was held in Stanley Civic Hall during February when about 120 members were present. The business part started at 5 p.m. when the officers for 1974 were elected and the summer outings announced. The first trip is to Lakeland and this will be followed by excursions to Weardale, Teesdale, the Cheviots, North Yorks, North Tyne, Malham and Ingleton together with a few shorter, more local expeditions. It was announced that the Club had been forced to cancel the remaining winter lectures in the library because of the lighting and heating restrictions.

The annual slide competition then took place and as usual

proved a great success. As a change, this was followed by a film arranged by Mrs. Purvis.

BIRTLEY AND CHESTER-LE-STREET NATURAL HISTORY SOCIETY

After Christmas only two lectures could be given because of the energy crisis, which caused the library room to be closed for evening activities. Dr. A. Johnson gave a splendid account of the Glacial Episodes in our Geological History on January 8th and Mr. W. B. Woodward talked about Water Fleas and their problems in highland lochs on February 5th. The Annual Dinner was held in the Lambton Anns Hotel on January 22nd when a very pleasant evening was enjoyed by all the members present. After the meal, Mr. Dunn showed some slides of Greek Flowers taken during the previous year and Miss Gordon some archeological photographs of Egypt, also taken on holiday.

CLEVELAND NATURALISTS' FIELD CLUB

A very full programme of outings for the summer season has now been completed and circulated to all members. This comprises a list of thirteen places excluding those arranged by the Yorkshire Naturalists' Union and the Northern Naturalists' Union.

Those for long distances such as to Upper Teasdale, Weardale, Teesmouth and Berwick-on-Tweed will be by coach, whereas those of a more local nature will be by members' cars. Some of these are follow-ups of winter lectures and will be mostly in the evenings, but the longer trips are all full-day excursions.

DARLINGTON AND TEESDALE NATURALISTS' FIELD CLUB

The Annual Report for 1973 has been produced this year with some difficulty owing to the tremendous amount of time involved and the escalating costs of paper and printing. The final copy is therefore much less bulky than it has been in the past, but by condensing the sectional reports we have endeavoured to provide the same amount of information.

The report shows that the Club has had a very full and active year. Trees were planted on the North side of Staindrop Road as part of the "Plant a Tree" campaign, successful objection was made to a commercial plan to develop and despoil the Neasham Brickponds, a joint objection has been made to the proposed development plans for Teesmouth, some lime trees at Blackwell Grange that were in danger of being felled were saved and we cooperated with the Durham County Conservation Trust to sell Trust goods to the value of about £200

The sectional reports show continued enthusiasm in recording plants and animals in the field and a growing interest in archeology. The Balance Sheet shows a healthy balance and a cash surplus on the year's working.

HARTLEPOOL NATURAL HISTORY SOCIETY

Mr. J. K. Williams, a teacher at a junior school in Hartlepool had long felt there was a need for a Natural History Society in the town. Such a society had never existed. In his own enthusiastic pursuits of things natural he met many people with similar interests and so determined to call a meeting at the Atheneum Club on Wednesday, October 24th, 1973. His efforts were rewarded by a gathering of 29 people whose enthusiasm was so great as to urge the adoption of a constitution at the following meeting, along with the election of a set of officials. Mr. J. K. Williams was elected Chairman, Mrs. B. Walker secretary and Mrs. P. Mellor treasurer with Mr. T. McAndrew vice-chairman and Mrs. J. Watt a committee member. (Any person wishing to become a member should contact Mrs. B. Walker, 69 Crowland Road, Hartlepool, tel. Hartlepool 870032. Meetings are to be held on the fourth Wednesday in each month at the Atheneum Club, Church Street, Hartlepool).

THE WESTWATER LAKES SOCIETY, FIELD SECTION

The Field Section meets at Bonnyrigg Hall, at 2.0 p.m. on the first Saturday and Sunday of each month from April to November. Members may volunteer to lead or to find leaders and objectives for these meetings. Also some members or groups undertake studies, conservation work, etc. on a private basis, and on most weekends in summer there is some activity going on in which members can join, though participation in corporate activities is not essential to membership of the Section. A flat at the hall is let to the Section and serves as its headquarters. It has its own hot and cold water, and modest but improving cooking and sleeping facilities available for booking for overnight accommodation by Section members through the Assistant Secretary, Mr. K. Templeton of 34, Western Avenue, Lemington, Newcastle upon Tyne 5.

NOTES AND RECORDS

NOTES

Bird notes from Holy Island, During a week on the island from 1.10.73 to 8.10.73 the following birds were seen and may be of interest to readers of the *Vasculum*:—

Great Grey Shrike — 1 only; Ring Ouzel — 3; Brambling — about 30; Whinchat — 1 only; Goldfinch — 1 only; Goldcrest — 30 plus; Redwing — about 200; Fieldfare — 20; Golden Plover — about 300; Blackcap — odd ones most days; Siskin — 4; Yellow-browed Warbler — 1 only Red breasted Flycatcher — 1 only. L. P. Hird.

The Wall Brown Butterfly, (*Lasionmata megera* L.). Last year (1972) this insect was reported from the rough grassland near Usworth Aerodrome. At that time this was the only locality north of Crirndon Dene. This year (1973) it has appeared in a number of localities between these two places. As well as at Bishop Middleham mentioned in the last number, it was also seen at Thrislington Plantation, Cassop Vale, near Dawdon and in the old colliery railway cutting leading from Ryhope Colliery to the coastal railway. These additional localities indicate that the butterfly is on the move

in a big way. It will be most exciting to follow its progress during the next few years and I would be grateful if naturalists would keep a look out for it in new places and report any spread. T.C.D.

Bird Notes from Northumberland. Here are a few selected records of special interest, mostly from Northumberland but one from south of the Tyne:—

Red-throated Diver — one at Seaton Sluice on February 24th.

Great Crested Grebe — one on Cresswell Pond, 4th February and two on Gosforth Park; Lake, 13th February.

Cormorant — about 150 on Marsden Rock, March 6th.

Scaup — 8 at Seaton Sluice on February 24th.

Tufted Duck — 70 at Seaton Burn Lake, February 25th.

Goldeneye — 8 at Bolam Lake on February 22nd and 4 at Seaton Sluice on February 24th.

Goosander — 9 on Gosforth Park Lake, February 13th.

Shelduck — 5 on Cresswell Pond on February 4th.

Coot — 460 on Seaton Burn Lake, October 23rd.

Knot — about 120 at Seaton Sluice, February 24th.

Little Owl — one near Capheaton, February 9th. C. J. Gent.

Two unusual Wasps. During the last two years the wasps and bees caught in my Rothamsted Light Trap have been sent to Dr. M. E. Archer at St. John's College, York for identification and recording. On 15th June, 1973, a specimen of the Cuckoo Wasp, *Vespula austriaca* (Panzer) was present in the trap. Not only is this an uncommon species for this part of the country but it also indicates the presence nearby of a nest of *Vespula rufa* (L.), the species parasitised by the Cuckoo Wasp. This too is an uncommon insect in the North East. The next step is to make certain of its presence by locating a nest or by making a certain identification in the field.

T.C.D.

The Large Heath Butterfly. We were very interested in the comments of Mr. T. W. Jefferson about the Large Heath Butterfly in the December 1973 edition of the *Vasculum*. We took this on Muckle Moss 8.8.69. We find it any time from the end of the first week in July to the second week in August. Its habitat appears to be " mosses " which are undisturbed enough to have cranberry, sundew etc. growing profusely. We have found it on almost all such mosses we have examined in Northumberland. Such mosses appear to be absent from the areas of Durham we have examined and consequently we have not found it there. The distance it roams away from the moss is perhaps its most interesting aspect. On Folly Moss near Colt Crag, we found that it flew back on to the moss once it was more than about twenty yards into the surrounding grassy area. The Small Heath, found over the grassy area behaved in exactly the opposite way, flying back on to the grass away from the moss. An exceptional habitat that we know of, where we took this species commonly, and which does not appear to obey the generalisations above, is Callaly Crag. It occurs over a sheltered area of moorland just behind the crags at the summit. Whether it is blown up from the moss below which we have not examined or whether its food plant is found in the top part, we have not been able to determine.

What is the truth about its foodplant? It is supposed to be the White Beaked Sedge, *Rhynchospora alba* (L.) Vahl, but is this present on all the mosses in Northumberland where the insect is found? Both of us would be very interested to know if it is other people's observation that this species is found only on mosses, and if so, what limits its distribution. I.D. and B. Wallace.

Alien Plants Following the interest created by my note upon *Azolla*, which is still thriving, I enclose a few more notes on other aliens. For the past seven years, I have known of an old fire reservoir at Tranwell Woods

Morpeth, which has a thriving population of the Great Duckweed (*Lemma polyrhiza* L.). With it in this reservoir is the Great Ram's-horn Snail (*Planorbis cornuus* L.)

Bladderwort (*Utricularia* sp.) still thrives in Ryton Ponds together with the Frogbit (*Hydrocharis morsus ranae* L.)

A small patch of White bryony (*Bryonia dioica* Jacq.) was discovered 28.8.73 growing in a sheltered hollow facing the sea on the Birling Carrs between Alnmouth and Warkworth, probably introduced.

The alien spurge, *Euphorbia uralensis* Fisch. ex Link, grows near Lintzford on the site of some demolished houses. I. D. & B. Wallace.

RECORDS

ORTHOPTERA — GRASSHOPPERS AND CRICKETS

<i>Chorthippus brunneus</i> Thun. Common Field Grasshopper.	66
Common on Tunstall Hills and on the river banks, Chester-le-Street.	
<i>Ormocestus viridulus</i> L. Common Green Grasshopper.	66
Common in grassy places at Salters Gate. T.C.D.	

LEPIDOPTERA — BUTTERFLIES AND MOTHS

<i>Lasiommata megera</i> L. Wall Brown Butterfly.	66
Thrislington Plantation, Bishop Middleham Quarry, Cassop Vale, Dawdon, south of Tunstall Hills to Ryhope, common.	
<i>Orholitha plumbaria</i> F. July Lead-belle.	67
Easily disturbed from Broom by the river, Cowbyers Farm, Blanchland.	
<i>Chesias legatella</i> Schiff. Streaked Carpet.	67
Larvae common on Broom in June and July at Cowbyers Farm. Subsequently bred.	
<i>Campaea margaritata</i> L. Barred Light Green.	67
Common in the plantation, Cowbyers Farm. T.C.D.	
<i>Pseudoterpna pruinata atropunctaria</i> Walker. Grass Emerald.	67
Larvae identified from South as this species have been collected by beating the extensive gorse patch at Heddon (Hill Head), Northumberland. We have not reared out the adult yet, but this species appears to be rare, particularly in Northumberland. Larvae collected 28.3.73 died in a moult. Larvae collected 3.10.73 now hibernating.	
<i>Apeira syringaria</i> L. Lilac Beauty.	67
A larva beaten from honeysuckle near Uigham, Northumberland on 26.5.73 successfully emerged 23.6.73.	
<i>Noctua firmbrata</i> Schreb. Broad-bordered Yellow Underwing.	67
An adult found resting under a clump of heather at Lilswood above Whitley Chapel, 26.8.73. This appeared to be a curious place to find this woodland species.	
<i>Conistra Ugula</i> Esp. Dark Chestnut.	67
One adult taken from a decaying rose hip near Widdrington on 28.10.73. There were many other more common Noctuid moths also feeding there at the same time.	
<i>Euclidimera mi</i> Clerck. Mother Shipton.	68
One adult at light on the old railway between Falstone and Plashetts.	
<i>Sphecia bembeciformis</i> Hubn. Lunar Hornet Clearwing Moth.	68
One adult hovering over Sallow in the same area as above.	
<i>Clostera pigra</i> Hufn. Small Chocolate Tip.	68
Larvae taken from <i>Salix aurita</i> L. in the same area. We find this is the usual foodplant wherever we find these larvae. We now know of five areas in the county where this local moth is found on such a Plant,	
I. D. and B. Wallace.	

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BY THE WAY

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PIT WASTE

For one hundred and fifty years or more the pits of Durham and Northumberland have been throwing up huge heaps of shale, pumping polluted water into streams and rivers and in recent years producing a thick black ooze from coal *washing plants. The untidiness and dereliction have been a disgrace to the whole industry. Durham has suffered additionally by the ruination of much of its coastline by the tipping of coal shale offshore and having it washed back on to what were once lovely sandy beaches of high recreational value.

It was with some surprise (and a great deal of pleasure), to read one morning of the decision of the authorities to stop the offshore tipping of colliery waste and then to have the action confirmed by B.B.C. news broadcasts. What had come over the Coal Board or the Government or both ? For years people who cared about the Durham Coast had been shouting for this to occur and here it was at last. Of course, it hasn't really stopped yet and one is tempted to ask how many more years it is going to be before the decision is implemented ?

One also wonders what schemes are afoot to dispose of the shale. Is the cure going to be any better than the disease ? If the shale is disposed of *painlessly*, what about the effluent from the coal washing plants ? There are places on the Durham coast where the black ooze is feet thick and a danger to people on foot. Surely this disgrace is not going to be allowed to continue. If a real clean up is contemplated then for goodness sake let us have rid of all the filth at the same time, and let that time be not too distant.

GALLS

Already many plant galls are showing on the trees and herbs of our countryside. They are mostly in their early stages as yet but we have seen full grown marble galls and artichoke galls on oak already. There are no doubt many others. Members who have already volunteered to help in the recording of a specified number of galls in Durham and N. Yorkshire should have started work already. If you wish to help but have not sent in your name please do so as soon as possible to Mr. F. Stubbs, 62 High West Road, Crook, Co. Durham. He will send you the list of galls that have been chosen, together with descriptions and methods of identification.

REVIEW

"Wildlife 74-6," is a pocket guide to zoos, wildlife parks, bird gardens and aquariums throughout Britain.

This handy reference guide covers 144 different zoological establishments throughout the British Isles. There are over 100 black and white pictures.

"Wildlife "74-6" is aimed at a wide section, of the public from children to retired people and is an essential reference for teachers and party organisers.

The Foreword is by Mr. G. Motterhead, Director of Chester Zoo. Each page has the name of the establishment at the top with category and location, followed by 100 words of descriptive copy with photographs of animals, birds and fish. Below the illustrations are listed the address, nearest rail and bus services, car and coach parking facilities, details of special educational facilities and lectures, catering, restrictions on feeding and private pets, gift shops and acreage. The reader's attention is drawn to special and particularly interesting exhibits. An indication of the suitability of the establishment for disabled visitors is also given. The owner's name and business telephone numbers are listed. The index system is by counties and appears on pages 116 to 117.

It is important that the public appreciate that most zoological establishments differ greatly: some have highly specialised collections; others have wide-ranging exhibits and do not specialise. These days more zoo directors are contributing to conservation by breeding from their own stock and in some cases returning threatened species to countries where animals or birds are now either extinct or almost extinct. This requires great care and expertise and is not a simple operation.

A few zoos are entertainment centres as well and offer children the combined fun of visiting the zoo and pleasure gardens at the same time.

Children's zoos cater for the quieter and more gentle animals which are mostly domesticated and are useful in giving children confidence and a better understanding of the animals.

Safari parks on the other hand, allow visitors to appreciate the beauty and majesty of lions, tigers and leopards, etc. from close quarters and the safety of their own cars without having to travel thousands of miles.

All these places have their own part to play in helping the public to appreciate and understand wildlife in all its forms.

The retail price is 45p and the book is available throughout most zoos and bookshops. If difficulty is found in obtaining the book, it is available direct from Interzoo Publications Ltd., 79 The Fairway, Buruham, Buckinghamshire.

THE SOCIETIES

NORTHERN NATURALISTS' UNION

The 137th Field Meeting of the Northern Naturalists' Union was held at Castle Eden Dene on Saturday, 1st June, 1974, under the leadership of Mr. Bill Monck, Conservator of the Dene. On a pleasant afternoon between 30 and 40 members and associates gathered at St. James' Church, Castle Eden.

The walk through the dene took place over recently constructed pathways through the western parts, a section which was not open to the public until a few years ago because of landslips and thick tangled vegetation.

Immediately we were faced with the alien *Rubus parviflorus* Nutt. in full flower at the entrance to the dene. Another American plant which has naturalised and is doing well is *Milella diphylla*. The ground vegetation was in excellent condition and just as lush as could be expected in spite of the shortage of rain in previous weeks. At one point, an early fungus, *Polyporus squamosus* was of much interest on the sycamores, which were consequently doomed to early destruction. Other plants of special note were *Campanula latifolia*, *Convallaria majalis*, *Tilia cordata*, *Listera ovata*, *Paris quadrifolia*, and *Daphne laureola*.

Moths were very scarce, only the micro *Simaethis fabriciana* and the Geometer *Perizoma albulata* being seen. A gratifying sight however, was a male Orange-tip butterfly, *Anthocaris cardamines* near the western exit.

Although we were assured that the red squirrels continue to thrive in the dene, we were not lucky enough to see one during the course of the afternoon.

After a thoroughly interesting expedition a very welcome picnic tea concluded the proceedings.

DARLINGTON AND TEESDALE NATURALISTS' FIELD CLUB

The summer programme has now been issued. A very full list including both long distance excursions by coach and shorter local outings has been compiled, a grand total of 19 field meetings. We are hoping that coach bookings will be made well in advance so that arrangements can be concluded promptly.

BIRTLEY AND CHESTER-LE-STREET NATURAL HISTORY SOCIETY

Outings have continued on the first Sunday of each month. On June 23rd a special whole day long distance outing was held at Blanchland. The party walked from the village by a circuitous route to Townend., Hunstanworth, Gibraltar Point and back again. Stops were made for food by the Bolt's Burn and at Gibraltar Point. Near Blanchland we looked at a slime mould on an old tree-stump which was sulphur yellow in colour. This was shortly after setting out in the morning. On the return journey in the evening we were amazed to find it a mass of spores and deep brown in colour. Whilst at Gibraltar Point, beating the trees produced many interesting insects especially from birch, gorse and willow.

NOTES AND RECORDS

NOTES

Bird Notes. On October 24th, 1973, I was very kindly invited to Teesmouth by Mr. Richard Wakely, the R.S.P.B. Warden. As we toured the area I was most impressed by the large numbers present. Thus on Seal Sands we saw over 200 Golden Plover, 1,000 Redshank, 1,000 Dunlin, 100 Curlew, 50 Bar-tailed Godwit, 100 Sanderling, 15 Oystercatchers and 100 Turnstones. Round the Teesmouth Field Centre there were 200 Shelduck, 17 Teal and 12 Snipe whilst over Cowpen Marsh there were about 500 Lapwings, 10 Meadow pipits and a single Kingfisher which provided the thrill of the day.

This year I have spent some time in a little valley near Holmeland Farm, a few miles from Houghton-le-Spring. On April 28th I counted 3 Marsh Tits, 6 Wrens, 2 Partridges, 20 Redwings, 150 Fieldfares, 1 Blue Tit, 1 Great Tit, 30 Linnets, 4 Yellowhammers, 10 Chaffinches, 20 Blackbirds, 15 Dunnocks and 25 Greenfinches. Encouraged by this large gathering I was there again on May 11th when again many birds were present including 2 Whitethroats, about 25 Linnets, 7 Chaffinches, 10 Dunnocks, 1 Yellowhammer, 24 Blackbirds, 2 Robins and 2 Partridges.

Stephen Turner (Junior).

Bolam Country Park. It was with some apprehension that I viewed the development of Bolam Lake and the surrounding woodland into a country park by the Northumberland County Council, with the associated provision of car parks. Bolam Lake has been a spot where one was almost certain to find golden-eye during the winter months with occasionally whooper swans and

the odd heron, and its summer residents included mute swan, tufted duck, coot, moorhen and dabchick. Whilst boating activities on the lake must inevitably cause some disturbance of the waterfowl, this is compensated by the response of some of the woodland species to feeding by visitors. On a recent visit I was closely approached by great, blue, coal and marsh tits and a nuthatch before I had left the vicinity of my car in the car park.

C. J. Gent.

A mass emergence of Solitary Bees. On 26th April I was called to 17 Laburnum Avenue, Durham City, the home of Peter and Margaret Whyte, to see swarms of insects emerging from holes in their lawn and from the children's play area behind the Avenue. This proved to be a mass emergence of the Tawny Mining Bee, *Andrena armata* (Gmelin), (*fulva* Schrank). There were literally thousands of insects about, the play area being quite covered with them and houses nearby receiving their unwelcome attention, although in all fairness to the insects most of them were concentrated in the windows where they were frantically trying to get outside again. The morning had been sunny and very hot after many days of cold east winds and thick cloudy skies. The sudden rise in temperature on the surface of the ground was the probable stimulus for this sudden rush into the open air. The differences between the males and females were quite striking, the larger females having bright orange hairs on the thorax, whilst the smaller males were more yellow-brown in general colour with longer antennae.

T.C.D.

White Corydalis, (*Corydalis claviculata* (L.) DC.). We found this plant flowering vigorously in November last at Heddon Hill Head. The ground vegetation under a young dense stand of birch had recently been burned and this is where the plant was growing. We could not find it and have never noticed it on the unburned ground nearby. The colony flowered throughout the winter. Is this plant one with dormant seeds awaiting stimulation? We would welcome comments.

I. D. & B. Wallace.

Bishop Middleham Butterflies. Because of the discovery of the spread of the Wall Butterfly in County Durham in September 1973, which was reported in these pages, it was decided to look for the first brood this year. Accordingly a group of Birtley and Chester-le-Street Naturalists visited Bishop Middleham Quarry on June 2nd. Sure enough, there was *Pararge megera* L. (Wall Brown) in full flight and in large numbers. Thus it was confirmed that the butterfly is double brooded in our county just as it is elsewhere in the country. In addition we found other species on the wing at the same time:— *Coenonympha pamphilus* L. (Small Heath), *Pieris brassicae* L. (Large White), *Pieris napi* L. (Green-veined White) and first brood *Erynnis tages* L. (Dingy Skipper). T.C.D.

Butsfield Quarry. When looking at the plants and insects in West Butsfield Quarry and Wood in early May I was struck by the large number of species of Bryophytes growing there. Having very little knowledge of the mosses myself I asked Rev. G. G. Graham to take a look at them. This we did together on 24-5-74. He later reported as follows:— "In 3 hours, 50 Bryophytes were noted and if all habitats had been covered probably another 20 could easily have been added. Good examples of the following were seen:—

- (i) Woodland banks with *Plagiothecium succulentum*, *Hylocomium splendens*, etc.
- (ii) Acid humus with very good stands of *Dicranum majus*.
- (iii) Tree bases and rotting humus with *Cephalozia bicuspitate* and *Lepidozia reptans*.

(iv) Stream sides with large amounts of fruiting *Philonotis jontana*, *Solenostoma sphaerocarpum* and *Dichodontium pellucidum*.

(v) An interesting small wet space with splash-zone mosses notably *Mnium affine* and *Pohlia cruda*.

(vi) Quarry floor with *Polytrichum piliferum* and *Cephaloziella starkei*.

I think these few species will indicate to any bryologist the rich variety of habitat and what to expect".

T.C.D. and G. G. Graham.

The Broad-barred White, *Hadena bicolorata* Hufn. A specimen of this rather widespread but rare moth turned up in my moth trap on 28th May, 1974. On searching the literature, including Robson's catalogue of the Lepidoptera of Northumberland and Durham, I could find no trace of even a mention. Dr. Long was then asked to delve into the card index of records that he has compiled at The Hancock Museum. Unfortunately his index does not include Co. Durham records. He did however find records for Berwickshire (v.c. 81), North Northumberland (v.c. 68) and Cumberland (v.c. 70). Of these there was only one recent record, of a single moth taken in his own M.V. trap at Gavinton, Berwickshire in 1956. The others were mostly from the History of the Berwickshire Naturalists' Club and had been found by the late G. Bolam. From another source I learn that there are records of its capture in Yorkshire, the most northerly there being at Harrogate. The specimen taken at Chester-le-Street would therefore appear to be the first Co. Durham record. More recently a note from Mr. I. D. Wallace tells of another specimen captured on 3rd June this year at Marshall Meadows north of Berwick which is again in v.c. 81.

Larvae are said to feed in flower heads of Smooth Hawksbeard, *Crepis capillaris*. Sow Thistle, *Sonchus* spp., and Mouse-ear Hawkweed, *Hieracium pilosella* in August. It may be significant that on the night of capture there was a warm west wind and a large colony of *Crepis paludosa* (a possible alternative foodplant) grows 2 miles directly to the west of my house. T.C.D.

RECORDS

LEPIDOPTERA—BUTTERFLIES' ANDI MOTHS

<i>Aphantopus hyperantus</i> L. Ringlet Butterfly.	68
One adult near the Lewis Burn, near Plashetts, 1-7-73. Is this a relict population or a (re)extension of its old range back into inland Northumberland ?	
<i>Scopula ternata</i> Schrank. Smoky Wave.	68
One caught on the wing on the same day and in the same place.	
<i>Lithmoia solidaginis</i> L. Golden Rod, Brindle.	68
Mr. Tynan captured one adult on the old railway track between Falstone and Plashetts in his "actinic trap" 29-8-73. This is a new County record of a moth which could reasonably be expected to occur.	
<i>Epione repandaria</i> Hufn. Bordered Beauty.	68
One adult found resting on a birch tree, 23-8-73, during a night light-trapping trip on, the same railway track.	
<i>Pseudopanthera macularia</i> L. Speckled Yellow.	68
A small colony discovered in the College Valley, 28-5-74. We believe this is a new record for Northumberland, and that it has not been seen in the North East since Sang's Darlington record mentioned in Robsons Catalogue.	
<i>Phytometra viridaria</i> Clerck. Small Purple Barred.	68
One in the Kyle Wood, 30-5-74.	

Anthocaris cardamines L. Orange-tip Butterfly. 66
 On the railway track country walk, by Derwenthaugh Coke Works at Winlatan Mill in May.
Ochlodes venata Br. & Grey. Large Skipper. 67
 Common, near Pethfoot, on the Devil's Water, 30-6-74.

I. D. & B. Wallace.

The same insect common along the edge of Hesledon Dene, 4-7-74.
Caloptilia robustella Jackh. 62
 One taken at Easby, 3-7-58, only recognised recently.
Hadena bicolorata Hufn. The Broad-barred White . 66
 One in absolutely fresh condition in my .Rothamsted Light Trap on 28-5-74. A new record for County Durham, v.c. 66. This record is published by kind permission of Rothamsted Experimental Station.
Abraxas sylvata Scop. Clouded Magpie. 66
 Abundant in all woods containing wych elm in late June and early July, River Wear Woods between Brasside .and Durham, Sharply Plantation near Houghton-le-Spring and Hesledon Dene.
Parasemia plantaginis L. Wood Tiger. 66
 Flying over the heather at Muggleswick, 29th June, 1974. T.C.D.

HYMENOPTERA— BEES, WASPS AND ANTS

Vespa austriaca Panzer. Cuckoo Wasp. 66,67
 One in my Rothamsted Light Trap, 16-6-73 (66, T.C.D.). Specimens from Kirkley Hall were exhibited at a class in Newcastle University in 1965 (67, C. J. Gent).
Bombus lapponicus Fab. Bilberry Bumble-bee. 68
 Yeavinger Bell. C. J. Gent.

AVES—BIRDS

Crex crex. Corncrake. 66
 One heard in the Twelve Score Fields, Swalwell, 23-5-74. L. P. Hird.
Cinclus cinclus. Dipper. 66
 Feeding, 7-8-73, on, the gravel at the side of the River Wear under the new motorway bridge, Chester-le-Street. E. Hall.

MOLLUSCA—SNAILS AND SLUGS

Physa sp. alien. 66
 Naturalised at Cleadon.
Planorbis laevis Alder. 66
 Witton-le-Wear Nature Reserve.
 R. Lowe.

FLOWERING PLANTS AND FERNS

Equisetum hyemale L. Dutch Rush. 67
 A small patch between Bothal and Morpeth along the river bank. Another colony on the river bank at Close House, Heddon. I. D. & B. Wallace.
Gymnadenia conopsea (L.) R.Br. Fragrant Orchid. 67
 Near Dipton Mill in Hexhamshire.
Petasites fragrans (Vill.) C.Presl. Winter Heliotrope. 66
 On the left bank of the River Wear, looking downstream near the Roman Bridge, Stanhope. F. Wade.
Papaver argemone L. Long Prickly-headed Poppy. 68
 Near the old railway station at Akeld.

<i>Papaver somniferum</i> L. Opium Poppy.	68
Embleton Quarry.	
<i>Fumaria densiflora</i> DC.	68
Embleton Quarry.	
<i>Sinapis alba</i> L. White Mustard.	68
Holy Island.	
<i>Diplotaxis muralis</i> (L.) DC Wall Rocket.	68
Beadnell.	
<i>Lepidium heterophyllum</i> Benth. Smith's Cress.	67
Throckley Pit Heap.	
<i>Coronopus squamatus</i> (Forsk.) Aschers. Swine Cress.	68
Elwick; between Craster and Dunstanburgh.	
<i>Thlaspi arvense</i> L. Field Penny-cress.	68
Near Westnewton; near Redstead (Christon Bank).	
<i>Arabis hirsuta</i> (L.) Scop. Hairy Rock-cress.	68
Canongate Bridge Alnwick	
<i>Rorippa sylvestris</i> (L.) Bess. Creeping Yellow-cress.	67,
	68
Mere Burn, and Derwent near Newlands; Rede near Otterburn Mill, and near Brig (67). Glen near Akeld (68).	
<i>Rorippa islandica</i> (Veder) Borbas. Marsh Yellow-cress.	68
Ewart Park; Glen near Akeld- Newton, Seahouses.	
<i>Viola odorata</i> L. Sweet Violet.	68
Bathing Well Plantation, Cornhill.	
<i>Hypericum humifusum</i> L. Trailing St. Johns Wort.	68
Budle Point.	
<i>Dianthus deltoides</i> L. Maiden Pink.	67
Reaver Crag, near Colwill.	
<i>Cerastium arvense</i> L. Field Mouse-ear Chickweed.	68
Banks of Tweed near Cornhill, and near Norham Castle; roadside, N.W. of Thirlings (Ewart); Seahouses.	
<i>Cerastium semidecandrum</i> L. Little Mouse-ear Chickweed.	68
On basalt, in cutting of the old railway near Carham.	
<i>Stellaria paltida</i> (Dumont) Piro. Lesser Chickweed.	68
Swinhoe.	
<i>Stellaria neglecta</i> Weihe. Greater Chickweed.	68
S. bank of Till, between the old railway and main road; S. Middleton Dene.	
<i>Sagina subulata</i> (Sw.) C. Presl. Awl-leaved Pearlwort.	68
Bamburgh Golf Course; near Dunstanburgh.	
<i>Montia sibirica</i> (L.) Howell.	67
Naturalised in Belsay Park.	
<i>Chenopodium rubrum</i> L. Red Goosefoot.	68
Embleton Quarry.	
<i>Malva neglecta</i> Walbr. Dwarf Mallow.	68
Beadnell; Embleton Quarry.	
<i>Geranium lucidum</i> L. Shining Cranesbill.	68
Near Thirlings (Ewart); Ratcheugh.	
<i>Impatiens glandulifera</i> Royle. Policemen's Helmet.	67
	68
Derwent, near Shotley Bridge; S. Tyne near Unthank (67). Banks of Tweed near Cornhill, and near Norham (68).	
<i>Genista anglica</i> L. Needle Furze.	68
Hunterheugh Crags (Hedgeley).	
<i>Ulex galli</i> Planck. Dwarf Furze.	68
Carly Burn; Cold Water, near Shirl Naked.	
<i>Ononis repens</i> L. Restharrow.	67
Old railway cutting, near Kielder; old railway between Barrasford and Chollerton.	

G. A. and M. Swan

THE VASCULUM

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THE NORTHERN NATURALISTS' UNION

SUBSCRIPTIONS

We cannot complain about the way subscriptions have been sent in this year. There are still a few outstanding but the number is almost negligible. If you are one of the few, please repair the omission now.

There has been a disappointing recession in recruitment of new members. We need many more to remain solvent.

EDITORIAL

Herewith another enlarged edition, but the strain on the resources of the Union has almost proved too great. Our reserves have now been completely swallowed up. We must warn members and subscribers that some increase in subscription rate will have to be made in order to keep pace with the ever rising cost of printing. You will note that this edition has been printed by a different method in order to reduce this cost. We hope you will be satisfied.

We must record a generous grant from the Department of Botany of the University of Newcastle upon Tyne. Without it we would have been in an even worse position than we are. Further gifts will be most welcome.

CROOK BURN: a stream on the Co. Durham-Cumberland boundary**H. G. PROCTOR**

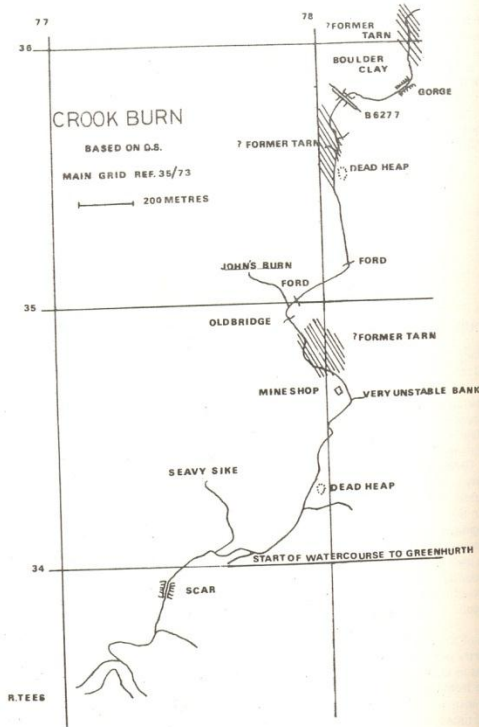
The Vicarage, Forest - In . Teesdale, Barnard Castle.

INTRODUCTION

Owing to the comparative paucity of literature relating to aquatic macrophytes in upland streams an examination of such a stream was undertaken, in 1972, with some doubts about its usefulness. Did few words mean little import! It was therefore encouraging to learn from the 40th Annual Report of the Freshwater Biological Association not only that the French had a team working on "macrophyte production in mountain streams" but that Mr. H. Dawson, of the River Laboratory, had spent a month with them. He kindly sent me a copy of his paper on his work in France (Dawson 1973) and suggested further reading. His attention to bryophytes was particularly cheering as in Upper Teesdale streams bryophytes, many strictly aquatic only in spates, are the most demanding of attention. It was with more mixed feelings I noted, in the blurb to Hynes 1972, that "our knowledge of running waters is only just emerging from the descriptive stage." Is merely descriptive work becoming outdated, especially at the unsophisticated level which is all that an amateur, unless unusually well qualified and equipped, can manage? But the world's rivers are many and its mountain streams as multitudinous as they are tumultuous, each inviting description of some sort by whoever will do it, before the more sophisticated studies can be begun.

Out of the many burns, becks and sikes of Upper Teesdale, Crook Burn was chosen partly because of a bee in my bonnet about mental as well as physical approaches to Upper Teesdale, by both historians and biologists, being too often orientated from east to west and not often enough from west to east. We should know, for instance, not only what was happening at Neasham (Blackburn, 1952) in late glacial times but also what was then happening on such places as Yad Moss, a col at the head of the Harwood Valley, which instead of allowing a traveller to descend almost immediately after climbing up to it - as is the habit of most British passes -

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keeps him, on a more or less level road, above 1900 ft. altitude for a distance of about 2 miles, before lowering him into South Tynedale. Crook Burn has the odd distinction of flowing, not down one side or the other of that watershed but transversely across it, ignoring both Harwood Beck to the south-east and Clargill Burn to the north - west and taking a somewhat presumptuous course of its own, eventually to reach the Tees.

With some hope of throwing a little light, however faint, on the causes of this unorthodox drainage pattern, geological observations, of an admittedly dilettante nature, were added to the botanical.

Nomenclature, in what follows, is according to Dandy(1958), Warburg (1963) and Paton (1965).

CROOK BURN

Crook Burn, which throughout its course forms part of the boundary between the counties of Durham and Cumberland, rises on the Tees - Wear watershed in the saddle SE of Burnhope Seat and at an altitude of 2275ft., the grid ref. for the source of the main grain being 35/791368. It flows SSW over a distance which, if bends are ignored and a straight line taken from source to mouth, is 2.4 English miles. The descent in that distance is 575 ft., the confluence with the Tees, at 35/771336, being at 1700 ft. altitude. For the first half of its course Crook Burn flows over the extensive upland bog known as Yad Moss which has some slight historical fame from the retreat across it of the Scottish army after the Stanhope Park campaign, 1328 A.D.

The burn is divisible into six sections, viz:-

1. 0.7 of a mile long in a straight line. Here about half a dozen subsidiary grains join the main one. Their courses, in peat or sinking into limestone, are not always obvious. This section was not examined in detail. Compared with that of the rest of the burn the descent is steep, 250 ft. in the 7/10 ths. of a mile.

The other sections were examined in more detail and the approximate lengths given follow the major bends, more or less, and are in metres.

2. From the entry of the last obvious grain, R. bank, to the bridge over the road, B6277.

3. From 86277 to the foot of John's Burn, approximately.

4. From the foot of John's Burn to a waterfall in ha. 780347, a little upstream of an old mine "shop" on R. bank, which is not marked on O. S. 21/2" map.

5. From the waterfall in 780347 to outcrops of limestone below Seavy Sike which enters, R. bank, in 775340.

6. From a limestone scar below Seavy Sike foot to the confluence with the Tees.

For sections 2 to 6, the width of the spate channel was measured at the upstream end of each hectare (ha.), and the averages are given. Measurements of the width of the water were also made at the same spots, with a note of the date of the measurement but are not given here as they would have been different at different times.

Subjective estimates were made of the speed of the current, the term "rapid" being used to where cascading was conspicuous, "fast" where the water was mainly broken or where falls were more noticeable than flat stretches, and "moderate" where flats were more noticeable than stickles or small falls between them.

The nature of the bed was noted. The term "shingle" is employed with a combination of its two dictionary meanings, viz. of rounded pebbles and of rectangular wooden roof tiles. The latter is not, of course, to be taken literally, but so many of the stones in the burn were of flaggy sandstone, suggesting tiles, that the term came to mind. Much of the "shingle" was coarse, angular material. Where the word "boulder" creeps in, it refers to large stones showing rounding of corners and edges, the career of which down the stream would be slow.

Estimates of the algal coverage of the bed were begun. But whereas those made on May 20th were invariably of abundance, those made on May 29th were invariably of total absence. Ha. 779343 was therefore re - examined. On the 20th algae in it had been abundant, on the 29th none was to be seen. There had been heavy rain on the 26th and a spate had obviously scoured the bed. I was surprised that the disappearance of the algae was so complete. Plainly, notes on the frequency of algae should refer to dates as much as to localities. They are therefore omitted here.

Estimates of the amount of vascular and bryophyte vegetation in the water were also made. These must be taken as very subjective, though an attempt was made to relate "rare" to less than 10%, "occasional" 10 to 30%, "frequent" 30 to 70% and "abundant" to above 70%. Estimates were made at each hectare but have been collated for the sections. On the whole, the aquatic vegetation of Crook Burn must be described as "sparse".

Similar estimates were made of water - edge coverage, with the terms used related to percentage coverage as above. Here estimation was even more difficult, scouring of the banks causing lengthy barren stretches to interrupt stretches where "cushioning" by some of the larger bryophytes or "wallpapering" by some of the smaller occurred. A few of the scours were being colonised by small bryophytes, mosses being more in evidence than liverworts. A study of the succession on these scours, as a slight change in the stream's course lessens the effect of scouring and eventually causes the water to recede altogether from the scour, would be interesting but must - for the present at any rate - be left to someone else.

A few notes were made of the soil profiles revealed by some of the higher scours.

Section 1, and Boulder Clay at 2000'.

It was my intention to ignore Section 1, as being more characteristic of peat- erosion channels than of any particular stream. But it being noticed from afar that the course of the main grain was deeply incised at one point, it was thought that that might be due to the stream having cut down through boulder clay occurring at an altitude even greater than some at 2000'. No boulder clay, however, was found above that altitude, the deep incision of the stream bed being due to the presence of a shaly, thin - bedded and easily eroded sandstone.

Two attempts were made to trace the 2000' boulder clay, first westwards and then eastwards, but on both occasions mist made observation difficult. On the Cumberland side, stream incisions are small and we, i.e. self and assistant, seem to have got too high before properly looking. Eastwards, the Durham side, we crossed to Long Gill Sike, reaching it at 792350, approximately on the 2000' contour and going down it to the road. Clough's map shows boulder clay all along Redgleam to approximately that altitude, 2000', but we could see none until we reached the road, at about 1870' altitude. A promisingly deep incision of the sike was, again, found to be due to its having cut into an easily eroded shaly and thin - bedded sandstone, and not into glacial deposits.

The Crook Burn boulder clay at 2000' means, however, that ice extended higher; the counters suggest to 2050'. Bellbeaver Rigg, grid ref. 76 - 35 -, now 2035' at the highest point of its plateau, would be covered and an Ice - age observer standing near Crook Burn above 2050' and looking towards Knock Fell would have had 4 miles of ice in front of him. I.e. there was an ice cap from which, when the ice was at its maximum, 3 glaciers radiated, viz. down the South Tyne, the Tees, and the Harwood valley. When conditions were less extreme and Bellbeaver Rigg became a nunatak there would be 4, the fourth being a short one going down Clargill Burn to join the one in South Tyne valley.

This digression has preceded notes on the remaining 5 sections of Crook Burn not merely on the strength of its involving Section 1, but because of a possibility that in the first stages of ice - recession much water was impounded on Yad Moss by ice still blocking both Clargill Burn to the north - west, the Harwood valley and drainage South to the Tees. Seavy Sike was cursorily examined on 8th August and found to have far more plants in the water than Crook Burn has, *Carex rostrata* and *Scapanoa undulata* being assessed as "frequent". John's Burn was not examined by me but Dr. D. T. Crisp, in the course of his fish investigations, found it to be "sluggish and heavily vegetated". The contrast between the amounts of vegetation in those right - bank tributaries and Crook Burn itself is striking and may be due to their being older streams with consequently more stable beds. It is surmised (but my surmises are not due to incontrovertible revelation) that if indeed there was a sizeable lake on Yad Moss, it was succeeded by smaller lakes or tarns, mostly at slightly lower elevations, in the vicinity, some of which occurred along the present course of Crook Burn though not at first draining by way of what is now the main stream.

Although species listing for Section 1 was not attempted, two bryophytes at the Source of the main grain, 791368, were so plentiful as to demand attention. They were:-

Drepanocladus fluitans *Lophozia ventricosa*

Section 2

Hectares (from upstream to down): 783360,783359,783358,782357,781357.

Altitude (from 21/2," O. S. map contours): 1925' to 2000'

Approximate length of stream's course: 535 metres.

Average width of spate channel: 2.08 m.

Current: Mostly rapid, with waterfalls; but moderate, with pools, at Section head, and again near the foot where a few more small pools are in 781357.

Nature of bed: Much bedrock, mostly limestone, alternating with shingle. Gravel only at edges, except 783360 where bed is gravel and silt.

Vasculars and bryophytes in water: rare - a patch of *Carex rostrata* at head, i.e. in 783360.

Water - edge vegetation: occasional to frequent.

Remarks: The Section begins with the uppermost site of one of the suspected post-glacial ponds. Scoured banks reveal a stony layer, 20 - 30 cm. thick, beneath a layer of peaty clay which reaches a depth of 1 m. 4m. of boulder clay is exposed on R. bank in 783359, but the peaty-clay layer continues on the L. bank in this hectare and in 783358. In 782357 the stream cuts through a gorge in the Scar Limestone, the walls being c. 6.5 m. high, with the strata showing on the left side a dip of c. 25 degrees to N. Underneath the limestone is some crumbling and heavily iron - oxidised sandstone.

Species list.

<i>Agrostis</i> sp	<i>Juncus effusus</i>
<i>Anoxanthum odoratum</i>	<i>Luzula campestris</i>
<i>Cardamine pratensis</i>	<i>Montia tontana</i>
<i>Carex rostra</i>	<i>Sagina procumbens</i>
<i>Cerastium holosteoides</i>	<i>Thymus drucei</i>
<i>Festuca rubra</i>	<i>Veronica officinalis</i>
<i>Galium saxatile</i>	
<i>Acrocladium cuspidatum</i>	<i>Rhacomitrium aciculare</i>
<i>Atrichum undulatum</i>	<i>Rhacomitrium heterostichum</i> var. <i>gracilescens</i>
<i>Bryum pseudotriquetrum</i>	
<i>Ceratodon purpureus</i>	<i>R. lanuginosum</i>
<i>Dichodontum pellucidum</i>	<i>Rhytidiadelphus squarrosus</i>
<i>Dicranetum neteromallu</i>	<i>Sphagnum cuspidatum</i>
<i>D. rutescens</i>	<i>S. palustre</i>
<i>Dicranium scoparium</i>	<i>S. papillosum</i>
<i>Drepanocladus fluitans</i>	<i>S. subsecundum</i>
<i>D. uncinatus</i>	<i>Tortella tortuosa</i>
<i>Encalypta streptocarpa</i>	<i>Diptophyllum albicans</i>
<i>Eurhynchium swartzii</i>	<i>Lophozia ventricose</i>
<i>Fissidens taxitotius</i>	<i>Pellia epiphylla</i>
<i>Grimmia apocarpa</i>	<i>Preissia quadrata</i>
<i>Hygrohypnum ochraeum</i>	<i>Scapania undulate</i>
<i>Oligotrichum hercynicum</i>	<i>Solenostema trista</i>
<i>Philonotis fontana</i>	
<i>Polytrichum commune</i>	<i>Cladonia fimbriata</i>

Section 3

Hectares: 780357,780356,780355,780354,780353,780352,780351, 780350, 779350.

Altitude: 1850' to 1925'.

Approx. length of stream's course: 990 m.

Average width of spate channel: 2.58 m.

Current: A pool at the foot of the culvert under the road is 6m. wide x 3m. from head to foot with depth to 30 cm. at normal water. Below it the current is fast for the first third of the Section, then moderate for the rest where there are many pools, to 60 cm. deep; but with some quickening between the high banks before John's Burn.

Bed: Mostly shingle, with large stones from an eroding dead heap (mine spoil) and even larger ones, including boulders to 1 cub. m., from a slip of L. bank boulder clay. But much gravel and silt where current is moderate.

Structural and bryophytes in water: Rare in upper 5 has. Occasional in rest, but in 780352 and 780351 *Carex rostrata* extends right across the stream.

Water - edge vegetation: Frequent only in 780356 and 779350. Elsewhere occasional, there being much scouring of the banks, the scours being to 60 cm. high.

Remarks: The centre of the Section looks to be another site of a post - glacial tarn, there being extensive *Carex rostrata* swamps on the banks as well as a reappearance of the peaty clay layer, again to 1 m. thickness, on top of a stony layer, to 45 cm. thick. In 780356, at the head of the suspected tarn, a L. bank scour shows a 15 cm. layer of small stones, only 20 cm. of peaty - clay, 30 cm. of sedge peat, with 40 cm. of *Calluna* peat on top. Near the foot of the Section, although there is no sudden decrease in the altitude of the stream itself, both banks rise comparatively high above it - suggested point of breakthrough when the tarn drained away. In 780356, i.e. not far below the Section head, is what I can describe only as a mess of oily ferruginous material (? iron bacteria). This, and the ferruginous sandstone exposed in the gorge in Section 2, may explain why few trout - as I understand - run up above the bridge. But I do not know whether there is any evidence that trout dislike super - chalybeate water.

Species list:

Agrostis canina ssp. *canina*
A. stolonifera
A. tenuis
Callitriche intermedia
C. stagnalis
Carex demissa
C. nigra
C. rostrata
Equisetum fluviatile
E. palustre
Festuca vivipara

Galium palustre
G. saxatile
Juncus articulatus
J. effusus
Mantia tomtana ssp. *Variabilis**
Nardus stricta
Ranunculus flammula
Sagina procumbens
Selaginella selaginoides
Stellaria alsine
Veronica beccabunqa

* The Rev. G. G. Graham wrote for information on *Montia* spp. and as I chanced to have a specimen from this Section I examined the seeds. They were so very variable

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that I was at a loss, and sent some to Mr. Graham who passed them on to Dr. S. M. Walters. Dr. Walters replied, "this sample is rather more variable in seed-coat pattern than usual, but I should call it subsp. *variabilis*, There are very few seeds with the regular rather thin papillae of subsp. *amportana*."

Atrichum undulatum
Dichodontium pellucidum
Dicranella palustris
D. rufescens
Fontinalis anti-pyretica
Hyohypnum ochraceum
Mnium punctatum
Oligotrichum hercynicum
Pohlia delicatula

Polytrichum commune
P. urnigerum
Rhacomitrium aciculare
Sphagnum cuspidatum
S. magellanicum
S. palustre
S. subsecundum
Pellia epiphylla
Scapania undulata

Section 4.

Hectares: 778349,779348,779347,780347. Altitude: 1825' - 1850'

Approx length of stream's course: 400 m. Average width of spate channel 2.725 m.

Current: At head of section fast but with pools; elsewhere moderate, almost amounting to "slow" in 779347.

Bed: Mostly gravel and silt. Bedrock, sandstone, at section foot.

Vasculars and bryophytes in water: Rare, but *Carex rostrata* right across stream for 9 m. near head of 779348.

Water-edge vegetation: Frequent except in 779348, where much scouring of banks made it only occasional.

Remarks: Just below the mouth of John's Burn is the masonry of an old bridge which carried a miners' road.

This section appears to be the site of another post-glacial tarn, larger than those upstream, and the burn now flows in a lagg with a raised bog, having much *Trichophorum cespitosum* on the left bank. A L. bank exposure in 779348 shows 50 cm. clay with 60 cm. sedge peat above it. A R. bank exposure there shows clay on consolidated gravel. A R. bank exposure in 779347 shows 1 m. of clay with a line of small stones embedded a third of the way up it.

The change to the next Section properly occurs at a 1 m. high waterfall, 10m. above the foot of 780347, but mosses from rocks at the fall are included in the species list. A bryophyte population limited to *Fontinalis antipyretica*, *Pellia epiphylla* and *Scapania undulata* was more typical of most of the Section.

Section list:

Agrostis sp.
Anthoxanthum odoratum
Carex rostrata
Galium palustre

Juncus articulatus
Ranunculus flammula
Sagina procumbens
Viola palustris

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Glyceria sp.

Atrichum undulatum

Bryum pseudotriquetrum

Drepanocladus exannulatus

Fontinalis antipyretica

Grimmia alpicola var. *rivularis*

Hygrohypnum oehraceum

Philonotis iontana

Polytrichum commune

Rhacomitrium aciculare

Sphagnum palustre

S. squarrosum

Pellia epiphylla

Scapania undulata

Section 5.

Hectares: 780346, 780345, 780344 (upstream end beside an old stone gate - post on L. bank), 779344, 779343, 779342, 778341, 778340, 777340, 776340, 775340.

Altitude: 1750' to 1825'.

Approx. length of stream's course: 1155 m.

Average width of spate channel: 4.86 m. (The width at the head of 775340, across a shingle bank just above Seavy Sike foot, was 16,8 m., but being exceptional was omitted in calculating the average.)

Current: Fast in upper part of Section and again at foot, but moderate for c. 300 m, in middle of Section, A pool in 779342, under R, bank, is 10 m, long and was 65 cm. deep when the water was low, on 20th May.

Bed: Mostly shingle, often heavy and flaggy, with large boulders especially near head of Section. Also bedrock in places, both limestone and sandstone, Gravel present here and there, but not much of it.

Vasculars and bryophytes in water: Rare.

Water- edge vegetation: On the whole frequent where the current is fast, occasional where it is slow. But in 778341 rare, due to both scouring and a R. bank landslip, In 778340 *Carex rostrata* in bogs and runnels on both banks.

Remarks: In 780346 the stream seems to have made a comparatively recent cut-through which would have drained the presumed tarn in Section 4, The left bank here is high and very unstable, of limestone on sandstone. A small tributary, coming from the limestone, adds to the instability. This bank is the source of the large, little worn, boulders which occur hereabouts in Crook Burn itself. The R. bank is also high but more stable. The change in the nature of the burn, as it passes the old mine shop on the R. bank. near the Section head, is very marked. In 779342 a dead heap on the L. bank is being eroded by the stream. At the foot of that ha. a small tributary enters, also on the left bank.

In 776340 an old miners' watercourse begins, by which water was conveyed to Greenhurth Mine. It is mostly filled in and hardly noticeable but in this ha. a short stretch of it still holds water, It was here that *Veronica scutellata* was found. Another side pond, in 777340, held *Callitriche intermedia*, *Carex rostrata* and *Potamogeton polygonifolius*.

Seavy Sike enters, R. bank, 20 m. below the upstream limit of 775340.

Species list:

Agrostis sp.

Potamogeton polygonifolius

Callitriche intermedia
Carex rostrata
Equisetum palustre
Galium palustre
Acroladium cuspidatum
A. stramineum
Atrichum undulatum
Bryum pallens
B. pseudotrichum
Dichodontium pellucidum
Fontalis antipyretica
Grimmia alpicola var *alpicola*

Ranunculus flammula
Sagina procumbens
Saxifraga stellaris
Veronica scutellata
Hydrohypnum luridum
H. ochraceum
Philonotis fontana
Rhacomitrium aciulare
Sphagnum palustre

Pellia epiphylla

Section 6

Hectares 774340,774339,773339,773338,773337,772337,771337,771336.

Altitude: 1700' to 1750'.

Approx. length of stream's course: 640 m.

Average width of spate channel: 6.37 m. (As In section 5, an exceptional measurement-across an island at the head of 771336 . viz. 14.8 m., including 2.4 m. width of island, has been ignored in assessing the average. At the foot of 771336, but above where spates from the Tees would play a big part, the width was 11.8 m., with water 5.4 m. wide on 6th May.)

Current: Fast. In 774339 rapid and cascading.

Bed: Limestone bedrock for first 1801T!. Low sills of a flaggy sandstone occur in next 100 m. but generally downstream of the limestone the bed is of coarse shingle with boulders to 1 cub. m. in size. Gravel is infrequent and only in small patches at edges.

Vascular and bryophytes in water: Rare.

Water. edge vegetation: Occasional on the limestone and at the burn foot. Frequent elsewhere.

Remarks: There is again, a marked change In the nature of the stream at the head of this Section where it plunges into a low scar, with walls 2m. high at the scar foot. This scar is in the Tyne Bottom Limestone.

A L. bank tributary enters in 773337.

In the Tees, at Crook Burn foot is a whinstone sill which in the 1950's made a conveniently smooth and flat, just submerged platform to stand on when fishing. But it is now covered with coarse shingle which has come down the burn.

Species list:

Agrostis sp.
Cardamine pratensis
Carex demissa
Equisetum palustre

Juncus effusus
Montia fontana
Prunella vulgaris
Ranunculus flammula

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Galium sternerii
Juncus articulatus
Acrocladium cuspidatum
Atrichum undulatum
 ? 2 *Bryum* spp and- *Bryum pallens*
B. pseudotriquetrum
Dicranella heteromalla
Drepanocladus uncinatus
Fontinalis antipyretica
Hygrohypnum ochraceum
Philonotis calcarea
P. fontana
Pleurozium schreberi

Sagina nodosa
S. procumbens
Polytrichum aloides
P. commune
Rhacomitrium aciculare
Rhytidiadelphus squarrosus
Sphagnum cuspidatum
S. palustre

Pellia epiphylla
Scapania undulata

Peltigera aphthosa

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THE MACROLEPIDOPTERA OF WALDRIDGE FELL

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One might think that a list of Lepidoptera for Waldrige Fell is likely to be so similar to the one for Chester-le-Street already published in these pages, that it is hardly worth printing. The ecology of the sites are so different, that there are many differences in the two lists. Moreover, since the Fell has been designated as a Site of Special Scientific Interest, the list should be of some scientific importance.

Insects found only within the boundaries of the S. S. S. I. have been included. This is an area of about 250 acres, containing in it an ancient birch wood, ash/alder carr, a very wet mixed deciduous woodland with some planted pine, heather moorland, grassland, a *Sphagnum* bog and patches of wasteland on old mining sites.

The area has been searched by day and by night over about forty years, but in spite of this, fresh species continue to turn up. It is most unlikely, therefore, that the list is complete, for apart from having missed species already in residence, new species are continually spreading in from the surrounding countryside. I have also witnessed the extinction of others and since several of these have been recorded in the past, I have taken this opportunity to note their disappearance.

PAPILIONOIDEA (BUTTERFLIES).

Pieris brassicae L. (Large Garden White). Less common than it used to be but still widespread.

Pieris rapae L. (Small Garden White). Somewhat commoner than the Large Garden White, but like that species numbers have fallen off rapidly during the last few years. Widespread within the area.

Pieris napi (Green-veined White). Much the commonest of the three members of this Genus. Also widespread and does not seem to have suffered such a disastrous recession as the other two.

Anthocaris cardamines L. (Orange - tip). Found only in small numbers along the eastern part of the South Burn. During poor years it may not appear at all.

Maniola jurtina L. (Meadow Brown). Common enough in sheltered grassy places.

Coenonympha pamphilus L. (Small Heath). Used to be seen in clouds every - where on the Fell, but of late has suffered some recession. Still common enough.

Vanessa atalanta L. (Red Admiral). Numbers vary considerably because of its migratory habit. Insects usually seen when immigration is good.

Cynthia cardui L. (Painted Lady). Another immigrant, less regular in appearance than the Red Admiral.

Inachis io L. (Peacock). Seen only occasionally. Does not appear to breed regularly and odd specimens seen are probably strays from outside the area.

Aglais urticae L. (Small Tortoiseshell). Of common occurrence in early spring and late summer.

Boloria selene Schiff. (Small Pearl - bordered Fritillary). A beautiful very deeply coloured-race is resident in one small area, but the colony is very small and in danger of extinction.

Callophrys rubi L. (Green Hairstreak). A very thriving colony which is one of the special features of the insects of the Fell.

Lycaena phlaeas L. (Small Copper). Of regular occurrence but never in very large numbers.

Polymmatius icarus Rott. (Common Blue). Of regular occurrence where Birds-foot Trefoil grows but never in large numbers.

Erynnis tages L. (Dingy Skipper). Not very common.

Ochlodes vena to Br. & Grey (Large Skipper). Quite common where there are grassy stretches alongside the two streams.

SPHINGOIDEA (HAWK MOTHS)

Laotloe populi L. (Poplar Hawk). Common enough, the caterpillars frequently beaten from sallows.

Deilephila elpenor L. (Large Elephant Hawk). The large caterpillar can usually be found by searching Rosebay Willow Herb.

BOMBYCOIDEA (PROMINENTS, EGGARS, TIGERS, ETC.)

Harpyia furcula Clerck. (Sallow Kitten). Rather uncommon. Larvae sometimes beaten from sallows.

Cerura vinula L. (Puss). Larvae frequent on willow and because it is so striking easily found.

Pheosia tremula Clerck. (Greater Swallow Prominent). Caterpillars frequently beaten from willow etc., and moths come readily to light and to sugar.

Pheosa gnoma F. (Lesser Swallow Prominent). Larvae common on birch. More frequent than the previous species.

Notodontia dromedarius L. (Iron Prominent). Commonly beaten from birch and alder. Comes to light frequently.

Ptilodon capucina L. (Coxcomb Prominent). The commonest of the Prominents on Waldrige Fell. Larvae plentiful on birch.

Phalera bucephala L. (Buff-tip). Numbers of larvae on birch, alder, oak, etc., vary greatly from year to year but always present. Variable in size and brightness of colouring.

Thyatira batis L. (Peach Blossom). The larvae of this beautiful moth is common on bramble and raspberry. Seen also at sugar.

Tethea duplaris L. (Least Satin Lutestring). Larvae common on birch in May and June. The moths are shy and retiring, difficult to find and just as difficult to capture when they are disturbed.

Achlya flavicornis L. (Yellow-horned Lutestring). Best taken by searching the twigs of seedling birches early in the year before the leaves grow. Larvae can be beaten later. A unique dark form is present.

Orgyia antiquo L. (Common Vapourer). One of the species that used to frequent the Fell, but which has become extinct within recent years. Died out one winter in the 1930's.

Philudoria potutoria L. (Drinker). A very large and thriving colony resides on the fell. This species is more abundant in our coastal areas than in such an inland site.

Drepana falcataria L. (Pebble Hook-tip). Frequently beaten from birch in the autumn and easily bred.

Cilix glaucata Scop. (Chinese Character). Common both at light and at the sugar patch.

Spilosoma lubricipeda L. (White Ermine). Caterpillars often found wandering about looking for suitable pupating quarters in August and September. Frequent at light.

Spilosoma luteum Hufn. (Buff Ermine). As the last species and every bit as common.

Diaphora mendica Clerck. (Muslin Ermine). Egg batches frequently found by searching on low growing plants. Easily bred.

Phragmatobia fuliginosa L. (Ruby Tiger). Caterpillars often found in grassy areas and subsequently bred.

Arctia caja L. (Garden Tiger). The larvae ("woolly bears") are quite common in grassy parts.

PSYCHOIDEA (BURNETS, CLEARWINGS, ETC.)

Zygaena Ionicerae Scheven (Narrow-bordered Five - spot Burnet). Only recently arrived, feeding on *Lotus corniculatus* on one of the waste patches.

Zygaena filipendulae L. (Six-spot Burnet). Common alongside the Waldrige-Edmondsley road.

Sphecia bembeciformis Hubn. (Osier Hornet Clearwing). Evidence of larval activity is widespread in the stems of willows, although the moths have never been seen.

HEPIALOIDEA (SWIFTS).

Hepialus humuli L. (Ghost Swift). Abundant in all grassy habitats.

Hepialus sylvina L. (Wood Swift). Present but not very common.

Hepialus fusconebulosa Deg. (Map-winged Swift). Abundant and very variable.

Hepialus lupulina L. (Common Swift). Common but numbers vary considerably from one year to the next.

Hepialus hecta L. (Golden Swift). Quite common over the grassy parts of the Fell.

NOCTUOIDEA

Agrotis segetum Schiff. (Turnip Moth). Very common, coming to light and to the sugar patch.

Agrotis exclamatoris L. (Heart and Dart). Very common indeed, especially at sugar.

Agrotis ipsilon Hufn. (Dark Dart). Numbers vary greatly from one season to the next, because it is an immigrant.

- Lycophotio porphyrea* Schiff. (*varia* Vill.) (True Lover's Knot). A heather feeder which is always in tremendous abundance.
- Graphiphora augur* F. (Double Dart). The caterpillars are easily obtained by beating willows after dark in May.
- Diarsia mendica* F. (Common Ingrailed Clay). Common at light and at sugar.
- Diarsia rubi* View. (Small Square Spot). Spring and autumn broods equally common.
- Ochropleura plecto* L. (Flame Shoulder). Common at sugar and easily found by searching flowers at night.
- Xestia aqathina* Dup. (Heath Rustic). The caterpillars are more easily found than the moths. Beating *Calluna* usually yields large numbers, but they are not very easy to breed through.
- Xestia castanea* Esp. (Grey Rustic). Occasionally found by searching *Juncus* flowers at night. Rare.
- Xestia bata* Schiff. (Dotted Clay). Very common at *Juncus* flowers.
- Xestia c-nigrum* L. (Setaceous Hebrew Character) Common at light and by searching *Juncus* flowers.
- Xestiu triangulum* Hufn. (Double Square-Spot). Very common at light, at *Juncus* flowers and at the sugar patch.
- Xestia sexstrigata* Haw. (Six - striped Rustic). Another species which is common on *Juncus* flowers.
- Xestia xanthographa* Schiff. (Square-spot Rustic). The larvae of this species are most abundant on grass after dark. The moths vary in colour from pale grey through darker grey to deep red.
- Paradiarsia glareosa* Esp. (Autumnal Rustic). Frequent at light and also at sugar.
- Cerasus rubricosa* Schiff. (Red Chestnut Rustic). Very abundant on willow blossom in March and April.
- Naenia typica* L. (Gothic Type). Can be obtained by beating willow in May, but more common on low growing mixed herbage, as larvae. The moths do not come readily to sugar or to light.
- Noctua pronuba* L. (Common Yellow-underwing). Very common at light and at the sugar patch in August.
- Noctua comes* Hubn. (Lesser Yellow-underwing). Very common in August and September. Very variable.
- Noctua janthina* Schiff. (Lesser Broad-bordered Yellow Underwing). Very common in September.
- Noctua fimbriata* Schreber (Broad-bordered Yellow Underwing). Not common along the edge of wooded areas.
- Anarta myrtilli* L. (Beautiful Yellow Underwing). Common enough flying over the heather in sunshine but very difficult to net because of its speed. Caterpillars easily found by beating *Calluna*.
- Mamestra brassicae* L. (Cabbage Moth). Common both at light and at sugar.
- Lacanobia oleracea* L. (Bright-line Brown-eye). Common enough everywhere.
- Lacanobia thalassina* Hufn. (Pale-shouldered Brocade), Very common at light early in the spring.

Ceramica pisi L. (Broom Moth). Common. The conspicuous larvae are often seen and can be bred through comparatively easily.

Hada nana Hufn. (Light Shears). Common at light.

Polia bombycina Hufn. (Glaucous Shears). Two or three specimens seen every year, but not common.

Hadena bicruris Hufn. (Lychnis Coronet). Not common but quite regular in its appearance.

Hadena rivularis F. (Campion Coronet). Not common as the previous species.

Hadena lepida Esp. (Tawny Shears). The ochreous-brown form is the common one here. Numbers vary greatly from one year to another.

Tholera decimaetis Poda (Feathered Gothic). Common enough on *Juncus* flowers.

Tholera cespitis Schiff. (Hedge Gothic). Seen at the same time as the last species and in the same places.

Cerapteryx graminis L. (Antler). Very common indeed. Often flies during daytime as well as at night.

Orthosia gothica L. (Hebrew Character). The commonest spring moth at willow flowers. Best obtained by beating at night.

Orthosia stabilis Schiff. (Common Quaker). Almost as common as the last and obtained in the same way at the same time of the year.

Orthosia crude Schiff. (Small Quaker). Not so common as the last, but also found at willow blossom.

Orthosia incerta Hufn. (Clouded Drab). Common. Appears somewhat later than the previous species.

Orthosia opima Hubn. (Northern Drab). This is rather a local moth, but is quite common at willow blossom, rather later than the other species.

Orthosia gracilis Schiff. (Powdered Quaker). A moth which has become commoner during the last twenty years. The beautiful and rare red form has been taken occasionally.

Mythimna pallens L. (Common Wainscot). Common in August on grass flowers at night and on ragwort during daytime.

Mythimna impura Hubn. (Smoky Wainscot). Even more common than the previous species.

Mythimna comma L. (Shoulder - striped Wainscot). Used to be seen quite frequently but numbers have dropped disastrously during the last ten years.

Mythimna ferrago Fab. (Clay Wainscot). Seen regularly but only occasional.

Mythimna conigera Schiff. (Brown - line Wainscot). Common enough.

Arenostola pygmina Haw. (Small Wainscot) .. Very common and easy to find amongst *Juncus effusus* at dusk in late August and September.

Caradrina morpheus Hufn. (Mottled Rustic). Very common indeed both at sugar and at light.

Caradrina clavipalpis Scop. (Pale mottled Willow). Fairly common on *Juncus* flowers in August.

Apamea lithoxylea Schiff. (Common Light Arches). Fairly common but never in very large numbers.

Apamea monoglypha Hufn. (Dark Arches). Very abundant at light in August.

- Apamea crenata* Hufn. (Clouded-bordered Brindle). Common in two distinct forms, a dark-reddish unicolorous form and the more usual light and dark splashed form.
- Apamea sordens* Hufn. (Rustic Shoulder-knot). A species whose numbers has gradually fallen off during the last five years.
- Apamea unanimitis* Hubn. (Small Clouded Brindle). Common at sugar in one part of the Fell near a patch of *Phalaris arundinacea* which is its foodplant. Larvae collected from the same plant.
- Apamea turva* Schiff. (Confused Brindle). Far from common at light.
- Apamea remissa* Hubn. (Dusky Brocade). Fairly common.
- Mesapamea secalis* L. (Common Rustic). Very abundant and in great variety.
- Enargia ypsilon* Schiff. (Dismal Brindle). Common enough at *Juncus* flowers in August.
- Oligia strigilis* Clerck. (Marbled Minor). Very common. The only form is the completely black one.
- Oligia tasciuncula* Haw. (Middle-barred Minor). Commoner than the last. Can often be seen during the daytime.
- Mesoligia literosa* Haw. (Rosy Minor). Fairly common in the black form which still, however, retains its rosy cross lines.
- Luperina testacea* Schiff. (Flounced Rustic). Fairly common at light during September.
- Euplexia lucipara* L. (Small Angle - shades). Very common at sugar and at light.
- Phlogophora meticulosa* L. (Large Angle -shades). This beautiful species can be found at almost any time of the year and is frequently augmented by immigrant specimens.
- Thalpophila matura* Hufn. (Straw Underwing). Fairly common, varying both in colour and in size.
- Photodes minima* Haw. (Small dotted Buff). Fairly common.
- Amphipoea ocullea* L. (Common Ear). Quite common. Easily taken by searching the flowers of ragwort during daytime.
- Hydraecia micacea* Esp. (Rosy Ear). Very common during September.
- Gortyna flavago* Schiff. (Orange Ear). Fairly common during September. The larvae can often be collected by examining the hollow stems of thistles.
- Cosmia trapezina* L. (Dun - bar). Frequently beaten from willow and birch as larvae. These must be quickly isolated from other larvae, as they are voracious cannibals.
- Amphipyra tragopoginis* Clerck .. (Mouse Moth). Frequently taken at light.
- Rusina ferruginea* Esp. (Brown Feathered). Very common indeed throughout the season.
- Acronicta leporina* L. (Miller). The beautiful caterpillar, like a piece of cotton wool, is frequently beaten from birch.
- Acronicta psi* L. (Grey Dagger). The striking multi - coloured larva can often be seen looking for suitable places to pupate when it is full - grown. Often beaten from Ash.
- Acronycta rumicis* L. (Knot - grass Dagger). Another species with a striking larva which can be found on almost any plant.

- Cucullia umbratica* L. (Common Shark). Not common in the waste places.
- Xylena exsoleta* L. (Cloudy Sword - grass) Fairly common.
- Xylena vetusta* Hubn. (Red Sword - grass). Commoner than the last and taken frequently at sallow blossom early in the year after emerging from hibernation.
- Cleoceris viminata* F. (Minor Shoulder - knot). Can be seen at dusk walking up *Juncus* stems, at the base of which it appears to rest during daytime. The form here is jet black.
- Aporophyla lutulenta* Schiff. (Deep Brown Rustic). Rather rare but seen once or twice.
- Aporophyla nigra* Haw. (Black Rustic). Often seen on fence posts and comes to light.
- Allophyes oxycanthae* L. (Green Brindled - Crescent). The caterpillars are found in plenty by beating hawthorn and are easily bred through.
- Dichonia aprilina* L. (Common Merveille - du - jour). Common at light near the wooded areas where oak is growing.
- Blepharita adusta* Esp. (Dark Brocade). Not common but seen fairly regularly. Very variable.
- Antitype chi* L. (Grey chi). Present both as the type and as the form *olivacea* Steph.
- Eupsilia transversa* Hufn. (Satellite). Beaten occasionally from sallow blossom in the early part of the year after hibernation.
- Omphalosclis lunosa* Haw. (Lunar Underwing). Rare. Only seen once or twice.
- Agrochola Iota* Clerck. (Red - line Quaker). Quite common in the autumn.
- Agrochola macilenta* Hubn. (Yellow - line Quaker). Not quite so common as the last species but seen regularly.
- Agrochola circettorts* Hufn. (Brick). Also seen quite regularly but not in large numbers.
- Agrochola helvola* L. (Flounced Rustic). Larvae have been collected by beating in the wooded areas and by searching heather and bilberry.
- Agrochola litura* L. (Brown - spot Chestnut). The commonest of this genus of autumn moths.
- Agrochola lchnidis* Schiff. (Beaded Chestnut). Fairly common and in great variety.
- Xanthia togata* Esp. (Pink - barred Sallow). Very common on heathy parts of the Fell.
- Xanthia icteritia* Hufn. (Common Sallow). Easily bred from larvae collected early in the year on sallow catkins.
- Conistra vaccinii* .. (Common Chestnut). Common at light and sugar in autumn, also in spring at sallow blossom.
- Conistra ligula* Esp. (Dark Chestnut). Only seen in the autumn and not so frequently as the last.
- Bena prasinana* L. (Green Silver - lines). Occasionally beaten from oak, some- times as larvae but also as imagines.
- Callistege mi* Clerck. Mother Shipton. Present every year on the grassy areas round Wanister Bog.

- Diachrysis rhysittis* L. (Common Burnished Brass). Very common, especially here nettles and thistles occur.
- Aotoarapha bractea* Schiff. (Gold Spangle). Taken occasionally at light.
- Autographa iota* L. (Plain Golden Y). Fairly common at light and on *Juncus* flowers.
- Autographa pulchrina* Haw. (Beautiful Golden V). Commoner than the last in the same places.
- Autographa gamma* L. (Common Silver Y). Very common at light and often seen dashing about over the heather during daylight nearly every year.
- Syngrapha interrogationis* L. (Scarce Silver Y). Seen only twice over the heather
- Abrostola trigemina* Wern. (Dark Spectacle). Sometimes beaten from nettle as larvae. Not common.
- Abrostola triplasia* L. (Light Spectacle). Common enough as larvae on nettle and as imagines at light.
- Scoliopteryx Iibatrix* L. (Herald). Common enough in the autumn and after hibernation in early spring, at light.
- Hypena proboscidalis* L. (Common Snout). Very common at light.
- Polypogon nemoralis* F. (Small Fanfoot). Not common at light.

GEOMETROIDEA

- Alsophilo aescularia* Schiff. (March Moth). Very common indeed at light and at sallow blossom early in the year.
- Geometra papilionaria* L. (Large Emerald). Not common but a few seen nearly every year.
- Idaea dimidiata* Hufn. (Single - dotted Wave). Common enough at light.
- Idaea seriata* Schrank. (Small Dusty Wave). A species whose numbers rise and fall in a fairly regular rhythm, but never disappears altogether.
- Idaea aversata* L. (Riband Wave). Common and in variety.
- Idaea biselata* Hufn. (Small Fan - footed Wave). Quite common at light in most years.
- Xanthorhoe munitata* Hubn. (Red Northern Carpet). Not common, One or two seen from time to time.
- Xanthorhoe designata* Hufn. (Flame Carpet). Common at light and at the sugar patch.
- Xanthorhoe montanata* Schiff. (Silver - ground Carpet). Abundant, in some years it appears in clouds in the wooded areas.
- Xanthorhoe fluctata* L. (Garden Carpet). Another very common species which is found everywhere.
- Colostygia pectinataria* Knoch. (Spring Green Carpet). Common, especially in the wet areas.
- Colostygia multistrigaria* Haw. (Grey Mottled Carpet). Very common at light and at sallow blossom in April.
- Perizoma didymata* L. (Small Twin - spot Carpet). Very common indeed. Easily

- Perizoma affinitatum* Steph. (Large Rivulet). Common.
- Perizoma alehemillata* L. (Small Rivulet). Also common.
- Perizoma flavofaseiata* Thunb. (Sandy Carpet). Not common. Usually seen when disturbed from bushes along the edges of wooded areas.
- Perizoma albulata* Schiff. (Grass Rivulet). Common wherever Yellow Rattle is to be found.
- Perizoma minorata* Treits. (Heath Rivulet). This local species is to be found here quite regularly.
- Anticlea badiata* Schiff. (Shoulder - striped Carpet). Common at sallow blossom in April.
- Anticlea derivata* Schiff. (Streamer Carpet). Seen at sallow blossom as the last species, but much rarer.
- Mesoleuea albieillata* L. (Beautiful Carpet). This lovely insect is seen from time to time on tree trunks round which raspberry grows.
- Entephria caesiata* Schiff. (Grey Mountain Carpet). Not common but occasionally seen flying over the heathy areas.
- Camptogramma bilineata* L. (Yellow Shell). Often disturbed from vegetation but not common at light.
- Cosmorhoe ocellata* L. (Purple Bar Carpet). Abundant.
- Lampropteryx suffumata* Schiff. (Water Carpet). Not common, more frequently the unicolorous form than the type.
- Eleetrophaes corylata* Thunb. (Broken - barred Carpet). Frequently found sitting on tree trunks in the wooded areas.
- Ecliptoptera silaeata* Schiff. (Small Phoenix). Common where Rosebay is to be found.
- Eulithis testata* L. (Common Chevron). Very common in the heathy areas.
- Eulithis populata* L. (Northern Spinach). As common as the previous species also found in the heathy areas.
- Eulithis pyrallata* Schiff. (Barred Straw Chevron). Much less common than the two previous species.
- Cidaria fulvata* Forst. (Barred Yellow). Common during July always near *Rosa* species.
- Plemyria rubiginata* Schiff. (Blue - bordered Carpet). Sometimes in clouds in the wooded areas.
- Chloroclysta miata* L. (Autumn Green Carpet). Not common.
- Chloroclysta truneata* Hufn. (Common Marbled Carpet). Common, in great variety with the unicolorous form appearing quite frequently.
- Chloroclysta citrata* L. (Dark Marbled Carpet). Equally as common as the previous species with some very bright forms.
- Thera obeliseata* Hubn. (Grey Pine Carpet). Always common wherever pine grows.
- Hydriomene furcata* Thunb. (July Highflyer). The commonest of the *Hydriomenas*, it is here in great variety.
- Hydriomena impluviata* Schiff. (May Highflyer). Also quite common, appearing earlier in the year than the previous species.

- Hydriomena ruberata* Freyer (Ruddy Highflyer). Less common than the other two. represented by an unusual almost jet black form.
- Epirrhoe atemata* Mull. (Common Bedstraw Carpet). Common along the borders of the wooded areas.
- Epirrhoe tristata* L. (Small Argent - and - Sable). Not common.
- Chesias leqatella* Schiff. (Streaked Carpet). Easily disturbed from broom in the late autumn.
- Odezia atrata* L. (Chimney Sweeper). Common enough in grassy places.
- Aploera plaqiota* L. (Slender Treble - bar). Seen only occasionally.
- Scotopteryx mucronata* Scop. (Common Lead - belle). Common around gorse early in spring.
- Scotopteryx plumbaria* F. (July Lead - belle). Not common.
- Scotopteryx chenopodiata* L. (Shaded Broad - bar). Very common in grassy places, in many varieties.
- Pelurga comitate* L. (Dark Spinach). Seen in small numbers from time to time.
- Epirrita autumnata* Borkh. (Large Autumnal Carpet). Common in late August and September in the wooded areas.
- Epirrita filigrammaria* H. - S. (Small Autumnal Carpet). Common in September flying over the heather.
- Epirrita dilutata* Schiff. (November Carpet). Very common indeed in the wooded areas in October and November.
- Operophtera brunata* L. (Common Winter Moth). Common in the wooded areas around Christmas each year.
- Operophtera laqata* Scharf. (Northern Winter Moth). Larvae very common on birch, easily bred through and emerge a week or two ahead of the previous species.
- Euchoeca nebulata* Scop. (Dingy Shell). Not common.
- Venusia eambria* Curt. (Welsh Waved Carpet). Seen only twice in one of the woods.
- Eupithecia pulehellata* Steph. (Foxglove Pug). Quite common at light.
- Eupithecia irriguata* Hubn. (Marbled Pug). Common.
- Eupithecia exiquata* Hubn. (Mottled Pug). Fairly common.
- Eupithecia eentaureata* Schiff. (Lime - speck Pug). Common.
- Eupithecia trisignaria* H. - S. (Tripple - spotted Pug). Not common.
- Eupithecia tripunetaria* H. - S. (White - spotted Pug). Occasional.
- Eupithecia absinthiata* Clerck. (Wormwood Pug). Occasionally seen at light.
- Eupithecia qoossensiata* Mab. (Ling Pug). Rare, seen only twice.
- Eupithecia vulqata* Haw. (Common Pug). Lives up to its common name by being the most abundant pug on the Fell.
- Eupithecia ieterata* ViII. (Tawny Speckled Pug). Common.
- Eupithecia succenturiata* L. (Bordered Pug). Fairly common.
- Eupithecia nanata* Hubn. (Narrow - winged Pug). Very common flying over the heathy areas.
- Eupithecia abbreviata* Steph. (Brindled Pug). Common in early spring in the wooded areas where oak grows.
- Chlorclystis rectangulata* L. (Green Pug). Common. Always the jet - black form.

Lomaspilis marginata L. (Clouded Border). Very common, easily disturbed and very variable.

Cabera pusaria L. (White Waved Silver). Very common in the wooded areas.

Cabera exanthemata Scop. (Common Waved Silver). Also common in the wooded areas.

Campaea marqaritata L. (Barred Light - green). Very common as larvae on birch.

Semiothisa llturata Clerck. (Tawny - barred Angle). Not common.

Semiothisa clathrate L. (Heath Lattice). Quite common flying over heather.

Semiothisa wauaria L. (V Looper Moth). Fairly common.

Theria rupicapraria Schiff. (Early Umber). Uncommon at light very early in the year.

Agriopis leucophaearia Schiff. (Spring Umber). Common at light in spring and sometimes at fallow blossom.

Agriopis aurantiaria Hubn. (Scarce Umber). Larvae frequently beaten from oak and birch, and easily bred through to emerge in late October and November.

Agriopis marqinaria Fab. (Dotted Border). Larvae common on hawthorn in May and June but not emerging until February and March of the following year.

Erannis detotitaria Clerck. (Mottle Umber). Very common indeed as larvae on willow, birch, oak, etc. Easily bred through.

Ennomos alniaria (Canary - shouldered Thorn). Fairly common in the wooded areas both as larvae on birch and later by searching at night time.

Selenia dentaria Fab. (Early Thorn). In small numbers both in the first brood as well as the second.

Selenia lunularia Hubn. (Lunar Thorn). This thorn is the one most frequently seen in the spring.

Odontopera bidentata Clerck. (Scalloped Hazel Thorn). Very common as larvae and easily bred.

Colotois pennaria L. (Feathered Thorn). Sometimes common as larvae on birch in May and June.

Opisthograptis luteolata L. (Sulphur Thorn). Very common as larvae on haw- thorn and later as imagines at light.

Ourapteryx sambucaria L. (Swallow - tailed Elder). Rather rare, flying along hedgerows at dusk.

Apocheirna pilosaria Schiff. (Pale Brindled - beauty). Frequently seen on birch trunks early in the year, both type and dark forms.

Biston betularia L. (Peppered Moth). Usually black forms only, larvae common on birch.

Peribatodes rhomboidaria Schiff. (Willow Beauty). Common.

Alcis repandata L. (Mottle Beauty). Common as a very black form.

Ectropis bistorta Goeze (Early Engrailed). Common in birch woods very early in the year.

Ectropis crepuscularia Schiff. (Small Engrailed). Not common.

Ematurga atom aria L. (Common Heath Beauty). Often seen in clouds flying over the heather in May and June.

Bupalus piniaria L. (Bordered White Beauty). Common, even during daytime, in those places where pine occurs.

Petrophora chlorosata Scop. (Brown Silver - lined). Abundant in those areas where bracken grows.

CONCLUSION It will be noted that the list of species is a long one and that the types are very varied. This illustrates the diversity of habitat in the site. The fact that so many are present in one of the places, the ash, alder, birch wood also indicates the probability of it having been in existence without much vegetational change for a very long time. Several of the insects here are local in their occurrence. It is also a fact that other orders of insects show the same interesting diversity.

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Edited by
T. C. DUNN, B.Sc.
THE POPLARS, CHESTER-LE-STREET

BY THE WAY

Secretaries of Societies and other contributors to "The Vasculum" are invited to send their notes to the Editor before 15th March, 1974.

SUBSCRIPTIONS

Members who were present at the last Annual General Meeting will remember that the Hon. Treasurer voiced his worries about the growing costs of printing and the way this was eating into the Union's monetary reserves. He was sorry to announce a loss of nearly £183 on the year's working and therefore his doubts about the future of the Vasculum. The recent issue of the October edition in a very much cheaper method of printing was an attempt to cut down the costs. Even so, were it not for the kindness of a member who has made a loan to the Society, the October edition would never have been produced at all. These matters have been constantly in the mind of the Treasurer and the Auditor for the whole of this year. Only by doubling our membership could we hope to get anywhere near the balance required. This has not been achieved, although our drive for increased membership has had gratifying results. With these facts in mind your Council looked at the financial position with great care at their meeting at the beginning of November. After discussing every method of saving and of increasing income, they reluctantly concluded that there must be an increase in subscriptions. Their recommendations, to be considered at the A.G.M. in March, are as follows:—

Ordinary members ...	£2.00
Family membership ...	£2.50
Schools, Colleges and other educational institutions	£2.00
Libraries etc. subscribing to the Vasculum only	£2.00
Junior members	£1.00
Affiliation fees from constituent natural history societies:—	£3.00
Membership less than 100...	

Membership of 101-150...
Membership over 150

£4.00
£5.00

This virtual doubling of the annual rate may seem a lot at one fell swoop, but one must bear in mind the present position of being in the red and the fact that the inflationary trend is by no means at an end. We could have recommended a smaller increase which would have enabled the Treasurer just to make ends meet. This would have meant complete stagnation on the part of the Union and a cessation of the production of the October Edition of the *Vasculum*. The Council could not countenance a recession of this kind. The introduction of the enlarged October issue four years ago was an important advance which must not be allowed to founder. The increased income will enable this to continue and perhaps for a time, until inflation catches up with us again, even to increase the size of this booklet to what it was in 1971.

We sincerely hope that you will all give your full support to this most important recommendation. If you have any alternative suggestions or any objections to the course proposed, you will have every opportunity to change or modify it at the Annual General Meeting in March.

THE WALL BROWN BUTTERFLY.

There was a time, not more than three or four years ago, when *Pararge megera* L. was looked upon as extremely rare in Durham County (v.c. 66). An occasional specimen could be seen at roughly two year intervals at Crimdon Dene or Seaton Carew, and that was its full distribution in the North East north of the Tees. True there were always plenty of butterflies to be seen in North Yorkshire, around the low lying areas near Thirsk and Northallerton.

Then, a few years ago it began to spread northwards. It colonised the coastal strip fairly rapidly until its arrival on Usworth Aerodrome, which has already been recorded in this journal. Since then, it has been filling up the spaces in between and also spreading westwards. During September this year, it was present in every suitable grassy habitat in S. E. Durham that we chanced a visit. Old railway tracks and some still in use seem to be especially favoured. The greatest concentration was seen at a site near Great Stainton but that memorable morning was blessed with ideal weather for butterflies in general and so might have appeared exceptional on that account. The most important sightings were undoubtedly at Witton le Wear Trust Reserve by Mr. F. Stubbs on September 15th and at Brasside Ponds by Mr. and Mrs. M. Smith on September 12th. These are western outposts, which probably represent its limit of spread for this year. We can now look upon the Wall Brown as a Durham butterfly and no longer as an occasional interloper from the south.

This spread is all the more remarkable because in the same period several other species have suffered a disastrous recession (or perhaps the spread of the Wall Brown has something to do with the recession in other butterflies?). The Large White, Small White, Meadow Brown and Small Heath butterflies, once the commonest of our summer insects and to be seen almost anywhere, have just about disappeared altogether. We wonder if the balance of nature is such as to compensate for fluctuations in this way. Or has it been due to the succession of mild winters? We simply do not know, but we are pleased to be able to report the facts of the spread in one insect at least.

THE SOCIETIES

NORTHERN NATURALISTS' UNION

The 138th Field Meeting was held at Bollilhope Burn on Saturday 13th. July 1974

After welcoming about 50 members and friends, Mr. Dunn took the party to the edge of the stream to see the little New Zealand Willow Herb, *Epilobium nerterioides*, a species which has become established in upland gravelly places. The party then worked its way downstream through the old quarry spoil heaps, where plants characteristic of these habitats were seen and identified. Mr. Lowe became very busy here sampling the pools for Molluscs, where, however, only a few species were discovered. Shortly after crossing the stream to the wooded part of the walk, it began to rain. There was only time to see a few more flowering plants like Marjoram (*Origanum vulgare* L.), Common Spotted Orchid (*Dactylorhiza fuchsii* (Druce) Vermeul and the characteristic alder galls before the increasing downpour caused us to abandon the outing and return as quickly as possible to the waiting vehicles.

Mr. Gent reported that apart from the meadow pipits which were quite plentiful and in song, bird life was not much in evidence. The following species were, however, noted lapwing with young hidden, curlew, swallow, house martin, jackdaw, wren, song thrush, blackbird, whinchat, spotted flycatcher, pied wagtail, starling, redpoll and chaffinch.

The 139th Field Meeting was at the Northumberland Wildlife Trust's reserve at Harbottle on 7th September 1974. This was a very wet day and long before reaching Harbottle it was evident that we had to be prepared for dreadful weather. In spite of everything, about thirty keen naturalists, dressed so as to be almost hermetically sealed off from the elements, were led off up the hill to the Drake Stone by Dr. W. Clark. The heather and the rowans were in fine condition, the first in flower and the latter in berries. Beyond the Drake Stone and near the tarn several good examples of active blanket bog were seen and investigated. Dr. Clark pointed out the different sedge species, sundew and cranberry. A circular route was followed, first to the south to look at the plants clothing the rock outcrops. Here good examples of *Vaccinium vitis-idaea* were seen alongside *Vaccinium myrtillus*. Later we were lucky enough to come across one series of plants of the cowberry on which a second crop of flowers were opening alongside the berries from the first flowering in the previous June. The vegetation here was very dense and the bracken very high so that if we had not been dressed for the part we would have been soaked to the skin. In spite of it all, everyone seemed to enjoy the outing and we even felt sorry for the people at the Harbottle Show, which we could see for much of the walk, in a field far below.

The Seventh Harrison Memorial Lecture was probably the most successful function of the N. N. U. since the war. This year the society was the guest of the Annfield Plain and Stanley Naturalists' Field club, and the lecturer, one of our own members, Dr. D. J. Bellamy, who was to talk on 'There's more in Bogs than Water', Although the Annfield Plain club had hired the Methodist school room, even it proved to be too

small. Something approaching 200 people arrived for the lecture. After filling every seat in the hall, people continued to arrive and many had to stand along the back and down the sides. \

Mr. Clayton, president of the host society, began the proceedings by welcoming the Northern Naturalists and any other visitors present. Mr. J. Bradley, President of the N.N.U. then introduced the lecturer. Dr. Bellamy began by tracing the formation of a complete raised bog from its beginning as a lake. Slides helped to illustrate the phases starting with the first growth of Sphagnum in the centre and round the sides of shallow ponds pools on top of the permafrost layer in northern Canada. The process continued with the eventual formation of a whole landscape of many sided pools, the polygon phase. Gradually the water got less extensive whilst the vegetated area got larger. In the next stage long sausage-shaped pools became the dominant feature. It was not long after this stage that the water disappeared altogether and the resulting raised bog formed.

In the final stages of the talk he showed, by means of a series of aerial photographs, how this complete succession can be seen in a single day by flying from the Arctic Islands of Canada southwards to the prairies. Altogether it was an impressive display of the art of visual illustration, something for which the lecturer is justly celebrated.

Mr Dunn rounded off the proceedings with a short vote of thanks, then the hall was cleared for tea. This was kindly provided, free of charge, by the ladies of the Annfield Plain Society. In spite of the extraordinary numbers everyone was fed and there was some food left over to sell. A collection towards the publication of the Vasculum yielded £27.00 and nine new members. In addition, the Conservation Trust stall was very busy selling Christmas goods to the value of £40.14. During tea, the assembled multitude had an opportunity to look at the many exhibits that had been put on view. Mr H Carr displayed paintings of local historical interest; Mr J. Hall a collection of mining lamps; Mr E. Wardle a series of postage stamps of natural history interest; Mr Pirt a very impressive display of leaves and autumn berries, beautifully mounted, Mr and Mrs Bowman a detailed display of pine tree regeneration; Mr Dunn a number of moths and butterflies and a dead wren found only that morning; and other items by Mrs Calland and Mr Ayer.

DARLINGTON AND TEESDALE NATURALISTS FIELD CLUB

The winter programme for 1974-5 shows a comprehensive range of indoor meetings at the rate of about one a week. These take place, in most cases, in the Projection Theatre of the College of Education.

Indoor meetings are not the only activity for there is also a list of local outings at fortnightly intervals except for a period in mid-winter between November 11th and the beginning of March.

Special fieldwork in connection with the Alder Wood survey at Witton-le-Wear Nature Reserve will continue. Both specialized knowledge and non-specialised help are required in all branches. Mr Hall, entomology leader, would welcome assistance.

The fungus is as yet unrecorded. Durham County botanical survey on a tetrad survey is also to continue. Anyone interested in helping should contact Mrs M. Burnip.

SUNDERLAND NATURAL HISTORY SOCIETY

The winter programme has been received. It shows fortnightly meetings which in the main are illustrated lectures. The first is on October 8th and is given by Rev. G. Lynn on Travels in Morocco. Others subjects are "The seasons", "Life in the Soil", "Washington Wild Fowl Reserve", "Iceland", "Some Birds of Europe", "Aspects of Pollution", "Plants as Drugs", "Aspects of Energy resources", and "Islands in the Sun".

BIRTLEY AND CHESTER-LE-STREET NATURAL HISTORY SOCIETY

A wide variety of lectures have been arranged for Tuesday evenings every alternate week in the County Library. The annual Dinner is to be held on January 21st and already sufficient support has been promised to make it a success. The Annual Meeting which is always accompanied by showing selections of members slides will take place on March 18th.

THE NATURAL HISTORY SOCIETY OF NORTHUMBRIA AND NEWCASTLE UPON TYNE

Weekly meetings are held on Friday evenings in the Hancock Museum. The programme shows that some sort of balance between the different branches of Natural History has been attempted. Apart from birds and plants, which are the stock in trade of most Natural history Societies, a series of lectures on entomological topics, one on rock tunneling, two on geology, and one on Cephalopods have been arranged.

FIELD SECTION, WESTWATER LAKES SOCIETY

Our usual monthly meetings have been held since April, but no additions were made to the list of species seen in the area. Interest has been aroused by the recent articles and records by T.W. Jefferson and I.D. and B. Wallace (*Vasculum* Dec. 1973 and April 1974), in particular with regard to the distribution and habits of the Large Heath Butterfly (*Coenonympha tullia* Mull.). In July 1970 we noticed this insect in a relict moss, now partially wooded, on a flat area about half way up the scarp to the south of the old Caw Lough near Bonnyrigg Hall, so it was decided to visit this area as part of our July meeting. Both sexes were seen in abundance, flying low over two of the more open spaces. We failed to find the Orange-tip which we saw on adjacent slightly higher ground in June 1970; perhaps we were too late for this species, though the Green Veined White which is abundant here, was still about. It is apparent that this small area will repay investigation regarding the question of the food-plant of the Large Heath. Many other insects were seen in the immediate area, Lepidoptera, Zygoptera, Neuroptera, and Parasitic Hymenoptera being particularly in evidence.

J.T.B. & D. Bowman.

NOTES AND RECORDS

NOTES

Bird Notes 1974. Wheatears appear to have been scarce this summer; I did not observe any during a trip through the Borders on May 27th from Newcastle to Edinburgh and back by way of Hawick. I did, however, see odd birds at Dunstanburgh on July 30th and Craster on August 27th. Sedge warbler numbers also seem to have been below normal.

Whinchats were well distributed at Coquethead on July 7th, and during the summer were observed at Fallowlees, Spylaw, Whitton Hillhead and Hartley: a family party was observed beside Seaton Burn Lake on August 4th.

Swifts were last seen at West Gosforth on August 23rd.

An Arctic Skua was observed beside St. Mary's Island on August 29th when there were several harrying Sandwich Terns at Tynemouth. The same day there were large flocks of both Oyster Catchers and Redshanks in a field on the mainland opposite St. Mary's Island.

On October 7th there were 5 Whooper Swans on a lake near Netherwitton.

A party of c. 30 Fieldfares were observed near Wingates on October 21st, and in the late afternoon of the 23rd eleven were perched on telegraph wires at Greenridge (Hexhamshire), two small parties being subsequently observed travelling SW. A small party of Redwings were near Doddington on October 22nd.

Other records which may be of interest are:—

Great Crested Grebe; 1 at Colt Crag, May 31st.

Little Grebe; An adult with 3 young, Wallington, July 21st.

Pochard; A duck with 4 young, Gosforth Park, June 13th

Golden eye; A duck, Hartburn, October 21st.

Red breasted Merganser; A drake and two ducks, Longhoughton Steel, May 26th.

Sheld duck; An adult with 8 juveniles, Cresswell, July 23rd.

Canada Goose; 15 at Sweethope Lough, May 30th.

Black Grouse; 2 cocks on N. approach to Carter Bar, May 27th and one in Harwood Forest, June 18th.

Ringed Plover; A pair with two chicks Longhoughton Steel, May 26th.

Golden Plover; 2 at St. Mary's Island, August 29th; flock (31) near Allendale, September 17th.

Spotted Redshank; one at Cresswell, August 19th.

Purple Sandpiper; 17 at Seaton Sluice, September 25th.

Ruff; 4 at Ellington, August 19th and September 9th; 2 at Craster, August 27th.

Marsh Tit; 1 at South Dissington, May 8th; 1 at Allendale, September 15th.

Willow Tit; 1 at Prestwick Carr, September 2nd; 1 at Heddon on the Wall, September 11th; 1 at Tranwell Woods, September 29th.

Stonechat; A pair with a juvenile at Cresswell, July 23rd.

Grey Wagtail; A family party at Allendale, September 14th.

Yellow Wagtail; A pair at Shilmoor, May 28th; a hen at Seaton Burn, August 4th and 13th.

C. J. Gent.

Plants of Holy Island. During my stay on Holy Island this year, I came across six more species of plants, which I have not seen there before in spite of well over 20 years of searching. These should be added to my list of Holy Island plants published some 2 years ago. They are the Corn Salad (*Valerianella locusta* (L.) (Betcke), Cut leaved Cranesbill (*Geranium dissectum* L.), Small flowered Cranesbill (*Geranium pusillum* L.), Bloody Cranesbill (*Geranium sanguineum* L.), Saltmarsh Rush (*Juncus gerardii* Lois.), and Squirreltail Grass (*Hordeum marinum* Huds.). The most interesting record, in my opinion, is that of the Bloody Cranesbill. Only a single plant was found in the dunes. Until this year I have never seen it on the island although it has always been abundant along the mainland shoreline only a short distance away.

L. P. Hird.

Junior Bird Notes. I recently visited my special bird watching area near Houghton ie Spring, the same area that I reported on in the July issue of this year. On November 15th, birds were especially abundant and I counted c. 200 mixed Gulls (Black headed, Common and Herring), 25 Chaffinches, 150 Linnets, 10 Yellowhammers, 15 Wood Pigeons, 15 Partridges, 250 Fieldfares, 100 Redwings, 200 Carrion Crows and Rooks, 100 Greenfinches, 1 Magpie, 10 Blue Tits, 2 Wrens, 2 Robins, 20 Dunnocks, 50 Blackbirds, and some 300 Starlings.

On 21st November, I was walking along Alexander Road, Sunderland, when I saw about 15 Waxwings feeding on rowan berries. Perhaps half an hour later there were about 25 more in the rowan trees in Mowbray Park.

Stephen Turner.

The Status of Juniper (*Juniperus communis* U in County Durham. Apart from the well known and extensive stands of Juniper in Upper Teesdale, a recession in the viability of this plant seems to be taking place. There are two main centres of plants outside that already mentioned, namely the Hisehope Valley area in the north and the Bollihope Valley area in the central part of the county. In the Hisehope area remnants of more extensive juniper thickets are to be found along this stream itself, together with outliers on two sides of Honey Hill. Except for the closely growing group on the north side of the hill, all the other plants are in a moribund condition. All are extremely old, many are dying and no seedlings are to be seen to replace those that are dying.

The same condition exists in the Bollihope area. On the Bollihope Burn itself there is a fair sized colony just west of the point where the B6278 crosses it. All are very old and dying. Single trees separated by many yards are found on most of its tributaries, such as the Fine Burn, the Howden Burn and the Black Burn. Again all are very old and no seedlings are to be found. During July I found the same state of affairs along the North and South Grain Becks on Pikestone Fell and along Quarter Burn not far away, two areas which I had not previously visited.

By contrast, an area along the eastern slopes of Wolsingham Park Moor just above High Jofless Farm carries a rather scattered juniper scrub which does have some young plants. These, unfortunately, are not as plentiful as one could wish for. They are outnumbered by the aged and infirm specimens. It looks as if this colony too may be on the downgrade.

What is the reason for these rather disturbing facts? Is it just part of the changing flora of Britain due to the weather and the passage of time or is there some other underlying reason? Could sheep grazing have anything to do with it? Lastly, does anyone know how to reverse the trend and if so is it possible to find the time and money to do it?

T. C. D.

RECORDS

LEPIDOPTERA BUTTERFLIES AND MOTHS

<i>Coenonympha tullia</i> (Mull.) Large Heath Butterfly.	67
Relict moss in wood south of Bonnyrigg Hall, 7th July 1974.	
	J. T. B. & D. Bowman
<i>Coenonympha tullia</i> (Mull.) Large Heath Butterfly.	67
One on moors near Knowesgate, 30th June 1974.	
<i>Deilephila elpenor</i> (L.) Elephant Hawk	.67
A full grown larva on rosebay willow herb, Heddon on the Wall, 11 th Sept. 1974	
<i>Oporinai filigrammaria</i> (H. S.) Small Autumnal Carpet.	68
Plentiful on moors round Coe Crag (Whittingham), 27th September 1974.	
	C. J. Gent.

Episema caeruleocephala (L.) Figure of eight Moth. 67
 One caught at midnight on the wall at Wideopen Ambulance Depot, 16th October 1974.
 R Henderson

ODONATA DRAGONFLIES

Enallagma cyathigerum (Charp.) Common Blue Damsel Fly. 67
 Plentiful at Rothlev Lake. 18th June 1974

C.J. Gent

AVES BIRDS

Plectrophenax nivalis (Snow Bunting) .68
 Holy Island, middle of October 1974.
Asio otus (Long eared Owl). 68
 Holy Island, middle of October 1974.
Charadrius apricarius altifrons (Golden Plover) 68
 Holy Island as above.
Squatarola squatarola (Grey Plover) 68
 Holy Island as above.
Cyanosylvia svecica (Bluethroat). 68
 Holy Island as above.
Turdus musicus musicus (Redwing) 68
 Holy Island as above.
Turdus pilaris (Fieldfare). 68
 Holy Island as above.
Carduelis cannabina (Linnet) 68
 Holy Island as above.
Limosa lapponica (Bar tailed Godwit). 68
 Holy Island as above.
Crocethio alba (Sanderling). 68
 Holy Island as above.
Lanius excubitor (Great Grey Shrike). 68
 One bird Holy Island as above.
Regulus regulus (Goldcrest) 68
 Holy island as above.
Mergus serrator (Merganser). 68
 Holy Island as above.
Sylvia nisoria (Barred Warbler). 68
 Holy Island as above.

L. P. Hird

FLOWERING PLANTS AND FERNS

Trientalis europaea (L.) Chickweed Wintergreen. 67
 Moor SW of Spylaw.