

THE VASCULUM

APRIL 1980

Vo1.65, No.1

Price £2.50 per annum, post free

Edited by
T. C. DUNN M.Sc.
THE POPLARS, CHESTER-IE-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 1980.

SUBSCRIPTIONS

As anticipated, it was agreed at the A.G.M. to increase the annual subscription by 50p. except for the junior subscription which remains at £1.00. This means that the basic subscription is now £2.50 per annum, family membership £3.00 and the affiliation fees of constituent societies become £3.50 for those with less than 50 members, £4.50 for those whose membership is between 51 and 100, and £5.50 for groups of 100 members and over. Will treasurers please note and be good enough to let me have an extra 50p. if they have already paid at the old rate or by Banker's Order. The same plea should be acted upon by ordinary members who pay by Banker's Order. I would be grateful if they would send me the additional amount and also if they would be good enough to alter the B.O. as soon as convenient.

We have been fortunate in being able to keep the subscriptions steady since 1975. This has only been possible because of a steady increase in membership and very careful management of our money matters. The effects of inflation on our printing bills have been somewhat drastic, for example the Vasculum costs increased by 23.8% during last year alone. If we can continue to increase membership, and this is largely up to you, then the modest increase in subscriptions that have been agreed should see us through for a few more years, unless something unforeseen occurs.

OUTINGS

Although you will receive a full list of outings in your membership card in due course and detailed instructions before each meeting, here is a preview for your diary-

31st May, Derwent Walk between Rowlands Gill and Lintzford

5th July, Wingate Quarries

6th September, Hardwick Hall (Provisional)

17th May, Cullercoats and the Marine Laboratory, Juniors

20th September, Hollinside Woods Fungus Foray, Juniors

Adults are welcome at Junior meetings, especially if they would care to share in the instruction.

1st November, 13th Heslop Harrison Memorial Lecture in the Church Hall, Consett.
Speaker Mr. I. R. Hornsby, "The creation of a Nature Reserve".

WETLAND SURVEY

Following on from the success of the 1979 Hedgehog Survey, members of the Natural History Panel of Museums North have this year turned their attention to one of the most threatened of all habitats - wetlands. The importance of ponds, ditches, slow running rivers and marshes for wildlife, and particularly as breeding sites for amphibia, cannot be overemphasised. Data will be gathered as in previous surveys - a survey sheet illustrating many characteristic pond plants and animals and incorporating a tear-off slip will be available from the following museums:-

Dorman Museum, Linthorpe Road, Middlesbrough

Gray Art Gallery and Museum, Clarence Road, Hartlepool

Preston Hall Museum, Stockton on Tees

Hancock Museum, Barras Bridge, Newcastle upon Tyne.

Sunderland Museum, Borough Road, Sunderland

David Green, well known Darlington Wildlife artist, has illustrated the survey sheet, and also produced an attractive pen and ink 'pondscape', prints of which will be sent to all persons returning information on wetlands. It is hoped that the data gathered will provide important information of the real status of wetlands in N.E. England, some idea of the scale of threats posed to them, and the plants and animals associated with them.

Peter Davis, Sunderland Museum

DRAGONFLIES (AND DAMSELFLIES) IN COUNTY DURHAM

Dragonflies (Odonata) must be the best known of all insects that frequent freshwater. They can be found anywhere from bogs and marshes, to ponds and lakes through to ditches and both fast and slow moving streams, in fact wherever there is sufficient permanent freshwater to support the aquatic larval stage and provide breeding sites for the adults.

Despite their obvious beauty and relative large size, surprisingly little is known about their distribution and habits, particularly so in County Durham (V.C.66). How abundant are these colourful insects? How many of the 40 odd species recorded from Britain are found in this county? How many ponds or streams do you know that support dragonflies? If you know of any, which species of dragonfly are they? Are they very common and where else can they be found in the County?

A national mapping scheme is in progress and to put right the paucity of records from this part of Britain we need more observers and recorders. An excellent book containing many superb colour plates is now available to aid identification, entitled "The Dragonflies of Great Britain and Ireland" by C. O. Hammond and published by Curwen Press at £9.95. While the price is high it is invaluable for any-one with an interest in this subject.

Over the last 30 years, wetlands and hence dragonflies have come under increasing threats, with many suitable habitats disappearing day by day. Ponds and marshes have been drained, streams have been polluted, the use of chemical sprays has increased, river channels have been straightened and bankside vegetation removed. It is vital therefore that we know which of the remaining wetland sites retain an interesting dragonfly fauna.

So, on the next sunny day, why not go out and find a bog, pond or stream and see what you can find. The main flying season for dragonflies is from May to September, although certain months are better than others for observing particular species. They can be seen on the wing throughout this period and while they may initially appear threatening with their bold markings and swift flight there is no cause for alarm as they cannot sting, despite local names such as 'horse-stingers', 'horse adders' and 'devil's darning needles'.

Whether the sighting is rare or not, all records for vice county 66 - that is the old County Durham, between the Rivers Tyne and Tees - are invaluable, so please send in details to the Editor. If possible, include:-

1. Name of species
2. Where seen (with grid reference if possible)
3. Date seen
4. Name of recorder

Additional information on numbers seen, or a site description would all prove useful.

Any records for past years are also urgently required.

Good luck whether you are sorting through your old notebooks or are standing in two feet of water.

WILDLIFE SURVEY

Durham County Conservation Trust is undertaking a survey of sites of wildlife interest initially identified in the Durham County Structure Plan produced by the County Council. These areas are known as 'Sites of Particular Ecological Importance' or S.P.E.I's for short.

The Nature Conservancy Council and Durham County Conservation Trust are then consulted by the local authorities when the interest of these sites may be threatened. It is vital therefore that we know as much about the wildlife interest as possible so that we can comment as fully as possible on the proposals and effectively conserve these important areas.

Unfortunately, for many of the sites, we only possess scant information and we urgently require the help of Vasculum readers to rectify this deficiency. Any information would be helpful, but could include:-

- 1.A description of the habitats with boundaries of the area of interest.
- 2.A list of the species present (be it plants, birds or insects) with relative abundance and if possible the exact positioning within the site of any rare or local species.
3. Other sites you think may merit designation as S.P. E.I. 's,

You can help in other ways:

- (i) By letting us know of any information you may already have for any of these sites.
- (ii) By helping in survey work.

Details of which sites require further work and recording forms (with full instructions) can be obtained from Michael Rebane, Conservation Officer, Durham County Conservation Trust, 52 Old Elvet, Durham City.

THE SOCIETIES NORTHERN NATURALIST'S UNION

The 56th Annual Meeting was held in the Hancock Museum, Newcastle upon Tyne, on 22nd March 1980, by kind invitation of the Natural History Society of Northumbria. During the short business meeting the Hon. Treasurer reported a slight surplus on the year's working but asked for a modest increase of 50p per annum on the subscriptions in order to keep abreast of inflation. This was agreed by the meeting.

After the reports Dr. A. Lunn vacated his Presidential Chair for the new President, Dr. L. Davies, who then continued with the business of electing the other officers before introducing the speaker. This was Mr. R. Wilkin, who then delivered his lecture on "The Natural History of the Otter".

Mr. Wilkin began with a few facts about the decline in numbers of the otter over the last 20 years and a general review of man's relationship with the otter over a much longer period as evidenced by place names such as Otterburn. The taxonomic relationship with other members of the Mustelidae was cleared up by means of pictures. Its diet, distribution and life history were then illustrated by superb slides. An outstanding feature of the lecture was the injection of audio-recordings at intervals and in this section we were able to hear the various sounds made by otters at play, during courtship and in anger.

The reasons for its recession were listed and it was pointed out that in all probability it was the joint effects of them all that were to blame. These were, the general increase in numbers of people visiting the countryside, increase in the use of pesticides, pollution of the water in our streams and rivers, loss of habitat, the increasing practice of using heavy machinery during modern drainage projects, impact of the increase of the numbers of mink, mass invasions of otter territories by angling clubs, the trade in skins, the putting down of snares for other animals and the increased traffic on the roads at night time.

Pictures of the Otter Trust premises and breeding ponds showed what could be done towards increasing their numbers in captivity for subsequent release into the wild. Finally we were given a rare treat indeed, a tape recording of a recitation by the speaker himself of a poem he had written himself about the need for conservation of the otter.

After a short vote of thanks by Mr. Gent, tea was taken just outside the lecture theatre where Mrs. Hall and Miss Vincent had been beavering away during the talk. Exhibits nearby were put out by Dr. M. Tayler who showed the side effects of various species of Potamogeton on Yugo-Slavian shores, Mr. Hird spread out pressed specimens of grasses, Dr. Burt showed pictures and specimens illustrating the way in which parasitic wasps use their ovipositors, and Mr. Dunn a case showing specimens illustrating how to differentiate between our nearly related but common butterflies. Mr. Wilkin had brought along lots of otter literature, specimens of otter footprints and spraint, and many photographs. These were displayed in the lecture theatre.

DARLINGTON AND TEESDALE NATURALISTS' FIELD CLUB

The Annual Report, which recently came to hand, reports that settled accommodation conditions have still not been fully achieved. Although the Arts Centre is now the permanent home of the club, there has been some difficulty in organising the best room with all the necessary facilities. It is suggested that there may eventually be two rooms, one for the winter audiences and a smaller one for summer use.

Lectures and field meetings have, nevertheless, continued to be well attended and the membership has been maintained. Two nature trail leaflets have been revised and added to and representations have been made to the authorities concerning the plans for North Gare and Seaton Carew.

NOTES AND RECORDS

NOTES

Otter Haven Project News. Since the Otter Haven Project was established in 1977 over 75 Otter havens have been established mainly in Dorset, Devon and Wales and the project has been extended to include the Thames, Anglian, Welsh, Severn-Trent, North West and Northumbrian Water Authority areas. The main aims of the project are to locate the areas where there are good Otter populations and to protect their habitat and/or improve the habitat where necessary. Attempts are also made to improve the surrounding areas for otters so that they can expand their range and close liaison has been established with land owners, water authorities and water users so that information about otters can be shared. Ed.

Birds seen at Hown's Gill. The following list of birds, seen on the N.N.U. outing on June 2nd 1979, was omitted in error from the report of the outing in the July 1979 edition of the *Vasculum*- Pheasant, swift, skylark, swallow, rook, great tit, blue tit, wren, song thrush, black- bird, robin, blackcap, willow wal bier, tree pipit, chaffinch, yellow hammer. C. J. Gent

Some notes about the golden *Plusia*, *Polychrisia moneta*. By the strangest of coincidences, the July 1979 *Vasculum* arrived on the same morning as *P. moneta* appeared in the Robinson trap in my garden, that was on 24th July 1979. Previous records for here (Monkseaton) are 11.8.74, 1 rather worn; 14.7.78, 1 newly emerged.

I have the impression that the *Plusiinae* in general prefer a damp spring for successful emergence. The springs of 1975-77 were rather dry by comparison with the last two, and followed rather mild winters. I recollect having to use the hosepipe in my garden during March and April in those years. *Plusias* were very scarce in those years, but in the last two they have been much more abundant.

The Nuthatch in County Durham. The first records of nuthatches, *Sitta europaea*, seen in the county were by Selby 1831. Until 1845 it was present round Durham City and definitely bred at Bishop Auckland (Temperley 1951). Then Hancock in 1874 states of no occurrences of the bird in Northumberland and although it had bred at Bishop Auckland thirty to forty years ago it was now "only a rare visitant". It appears to have gradually increased from the beginning of this century, with a pair at Wynyard in 1901 and by the thirties had spread to Darlington and Teesdale. It was seen again in Durham City in 1947 and known to have bred there in 1949. Now it has spread to other sites in the county (Durham Bird Reports 1977 *et al* and locally resident also in Northumberland (Northumberland Bird Reports 1977 *et al*).

One stronghold, until the winter of 1978/79 was Durham City, where about 12 pairs nested in different localities in woods in and around the City. As a result of the protracted winter and indifferent spring, numbers within a census area and from the general observations and surveys in the city area, appear to be down to half strength. A few pairs bred successfully but numbers in early 1980 are still nowhere near the pre-1979 level. Outside Durham, the population also appears to have declined. Can the nuthatch maintain its present status, or will it decline or increase again? Also, has it decreased or disappeared in other known localities or conversely, managed to take a foothold in any fresh sites in the county? This bird, with a series of hard winters, may suffer further decline, or it may show enough resilience to maintain its status within the county.

Any information available on this species within the county would be gladly received at the address below, so that further changes may be monitored. Dr. H.M. Johnson, Glenside, Quarry Heads Lane, Durham City.

Holy Island Notes. I stayed on Holy Island from 30th September to 7th October 1979, and although the weather was very poor indeed, there was quite a bit of bird life to be seen in spite of the thick fog and heavy rain. I saw 2 Great Grey Shrikes, 1 female Bluethroat, about 60 Bramblings, a flock of about 80 Siskins and other common birds like Linnet, Greenfinch, Redpoll and Chaffinch. There were many Redwings about with an odd Fieldfare flying with them. On the shoreline flocks of Knot and Wigeon dominated the scene with a few Curlew and Sanderling. There were also geese on the island but visibility was too bad for certain identification, although Robin Henderson assured me they were Brent.

It was not the best time of the year to see the flowers either, but in the dune slacks there were still many flowers of Grass of Parnassus, (*Parnassia palustris* L.). I counted the remains of 9 spikes of Henbane (*Hyocyamus niger* L.). Two interesting plants on the causeway were the Saltmarsh Rush (*Juncus gerardi* Lois.) and Sea Club Rush (*Siccrpus maritimus* L.). Altogether quite a rewarding week of observations despite the atrocious weather.

L. P. Hird

Review of the Country Code. Everyone with an interest in the countryside is being asked to comment on proposals for a new country code. The request comes from a small group, set up to advise the Countryside Commission on the 30 year old code and the way it is publicised. A short interim report issued on 14th January gives the group's preliminary conclusions and invites views and suggestions by 31 May 1980. So far the group feels that the original slogan approach of the existing Country Code should be retained. They suggest several changes to the existing wording and the addition of extra slogans to include guidance on the protection of farm crops, stock and machinery. Copies of the consultation paper are available from the Countryside Commission, John Dower House, Crescent Place, Cheltenham, Glos. GL50 3RA.

T.C.D.

RECORDS
BRYOPHYTES - MOSSES AND LIVERWORTS

The following Bryophytes were all recorded during the field meeting at Ninebanks in July 1978:-

<i>Dichodontium pellucidum</i> (Hedw.) Schp.	<i>Amblystegium variurn</i> (Hedw.) Lindb.	67
<i>Barbula cylindrica</i> (Tayl.) Schimp.	<i>Acrocladium cuspidatum</i> (Hedw.) Lindb.	
<i>Weissia controversa</i> Hedw.	<i>Grimmia apocarpa</i> Hedw.	
<i>Eurhynchium riparioides</i> (Hadw.) Rich.	<i>Racomitrium canescens</i> (Hedw.) Brid.	
<i>Bryum pallens</i> Sw.	<i>Pleurozium schreberi</i> (Brid.) Mitt.	
<i>Rhytidadelphus squamosus</i> (Hedw.) Warnst.	<i>Nardia scalaris</i> (Schrad.) Gray	

Dennis Hall

LICHENES - LICHENS

The following list is again from Ninebanks on the same occasion.

<i>Cladonia impexa</i>	<i>Cladonia coccitero</i>	67
<i>Cornicularia aculeata</i>	<i>Peltigera canina</i>	
<i>Peltigera rufescens</i>		

Dennis Hall

ARANAE - SPIDERS

<i>Rhaebothorax morulus</i> (O.P. - Carnb.)	70
<i>Hilatra frigida</i> (Thorell)	70
<i>Macrargus carpenteri</i> (O.P. - Camb.)	70
<i>Lepthyphantes angulatus</i> (O.P. - Camb.)	70
All four species above in litter of dwarf Calluna heath (lichen rich) on the summit plateau of Bellbeaver Rigg (NY 7635, alt. 620m) on 27.8.78. All species are characteristic of high altitudes.	
<i>Lepthyphantes pinicola</i> (Simon)	66
<i>Lepthyphantes angulatus</i> (O.P. - Carnb.)	66
These two spiders were under stones on the spoil tip of Greenhurth Mines 23.4.78. Both species found only at high altitudes.	
<i>L. Pinicola</i>	
Also on the tip by Teesbridge opposite the Moorhouse Reserve	70
<i>Jacksonella falconeri</i> (Jackson)	69
Under a stone on the tip by Teesbridge within the Moorhouse N.N.R.	
A tiny species only 1 mm in length.	
<i>Walkenaera clavicornis</i> (Emerton)	70
In a small Sphagnum mire (soligenous, oligotrophic) on Burnhope Seat, alt. 655m, 23.4.78. An upland peatland species and considered rare, only a single male.	
<i>Eboria caliginosa</i> (Falconer)	70
Found with the above species. The same remarks apply including rarity. Two females.	

<i>Drepanotylus uncatu</i> (O.P. - Camb.)	70
A male and female found in the same place as the two species preceding, but this is a more widely distributed peatland species.	
<i>Erigone capra</i> (Simon)	70
Amongst running water in the middle of a 'Brown moss' flush. Burnhope Seat, alt. 640m, veg.ht.2cm., 23.4.78. Two males and six-females were seen. The only other English station I am aware of is Malham Tarn. This species might be found in many of the flushes in Upper Teesdale.	
<i>Diplocephalus permixtu</i> (O.P. - Camb.)	70
In the same flush as <i>E. capra</i> and right in the middle. A common species of wet places.	
<i>Erigone promiscua</i> (O.P. - Camb.)	70
Also in the middle of the same flush and also a common species of wet places.	
<i>Eboria fausta</i> (O.P. - Camb.)	70
In a dry, raised grass tussock, by a flush, Burnhope Seat, alt. 640m., 23.4.78. An upland species.	

D. Horsfield

COLEOPTERA - Beetles

<i>Notiophilus aestuans</i> (Mots.)	66,69,70
Under stones or in short turf on the spoil tips of disused lead mines. Greenhurth Mines, alt. 550m, 23.4.78 (vc 66). On both sides of the Tees at Teesbridge, alt. 533m, 27.8.78 (vc 69, 70). Of a total of 14 specimens, 12 were of the normal shiny coppery colour but two were bluish-black. A rare species but previously found on the Sugar limestone at Cow Green and on lead mine tips in Yorkshire.	
<i>Enochrus quadripunctatus</i> (Herbst.)	62,66
This Hydrophilid beetle was abundant in the saltmarsh at Greenabella (66) and South Gare (62) in March 1979. The specimens were of var. <i>halophilus</i> which was only recorded on the east coast as far north as Norfolk by Balfour- Browne (Brit. Water Beetles III).	
<i>Micralymma marina</i> (Stroem.)	66
In the tidal zone, under slag and in crevices of the slag forming the retaining wall of Greatham Creek, bordering Greenabella Marsh.	
<i>Aepus marinus</i> (Stroem.)	66
Found with the species above.	
<i>Bembidion iricolor</i> (Bedel)	66
Another tidal beetle, taken under slag on the North Gare break-water.	
<i>Loricera pilicornis</i> (Fab.)	66
<i>Bembidion varium</i> (Olivier)	66
<i>Bembidion aeneum</i> (Germar)	66
<i>Amara convexuscula</i> (Marshall)	66
All four species near brackish pools on damp clay at Greenabella.	
<i>Dicheirotrichus gustavi</i> (Crotch)	66
With the above four species at Greenabella and also at Cowpen Marsh.	
<i>Staphylinus ater</i> (Graven.)	66
With <i>D. gustavi</i> at Cowpen Marsh.	
<i>Quedius simplicifrons</i>	66
With the above species	
<i>Broscus cephalotes</i> (L.)	62,66
In the dunes at Seaton and Coatham	
<i>Aegialia arenaria</i> (Fab.)	62,66
With the above species.	
<i>Sitona griseus</i> (Fab.)	62,66
With the above species.	

D. Horsfield

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BY THE WAY

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IMMIGRANT LEPIDOPTERA

We wrote in the December 1979 Vasculum about the scarcity of insects from abroad during the preceding twelve months. This year, 1980, promises to be better. Already, there have been sightings of Painted Lady Butterflies, especially from coastal areas, indicating that they have arrived in some strength. The offspring of this invasion should emerge later in the year if the weather co-operates. We would ask readers to keep a sharp lookout during the coming weeks and let us have news of observations with dates, numbers, place etc. Good hunting to you all.

A SPIDER CENSUS

A cry for help has been received from Dr. G. S. Oxford of York University. A team of workers there are carrying out a research project on colour variation in one species of spider. The species concerned is *Enoplognatha ovata*. An attempt is being made to determine what factors maintain the variability of this spider and as part of this work they want to map the percentages of the coloured forms on a countrywide basis.

Specifically they would like a sample from one or more Ordnance Survey 10km squares in parts of Durham and Northumberland. All that is necessary is to count the numbers of each of the main forms in a single colony in each 10km square. Identification details and sampling methods will be provided on a card specially printed for the purpose. This card has splendid pictures of the various forms of the beast on one side with recording arrangements on the reverse side.

Further details with a sampling card can be obtained from Dr. G. S. Oxford, Department of Biology, University of York, Heslington, York, YO1 5DD.

LOCAL LISTS

Dr. Todd has just shown us a small booklet printed by Clement and Grimes of Houghton-le-Spring in 1921, entitled "Arachnidae, Coleoptera, Myriapoda and Woodlice of Houghton-le-Spring" by H. Egglisshaw.

Apparently Mr. Egglisshaw published it himself and Dr. Todd's copy was presented to him by the author. On delving within we found a veritable mine of information. This is an extremely important little booklet and just goes to show that it is still possible, even in this day and age, to find little gems of scientific literature stowed away in odd corners. It is possible that others like this are waiting for someone else to uncover. We are presently trying to contact Mr. Egglisshaw's relatives in order to obtain permission to reprint, possibly in one of the October editions of the Vasculum. If any reader can help us to trace his descendents we would be most grateful.

Why are local lists so important, you may ask? From time to time it becomes necessary to publish details of our flora and fauna in more comprehensive form. At present, many members are helping Rev. G. G. Graham in his labours to produce a flora for Durham County. Other catalogues have been published from time to time and will continue to be produced in future years. It is from local lists that the larger volumes accumulate their facts and the more lists there are the easier it is for the compiler to complete his task.

OBITUARY

It is with deep regret that we have just learnt of the sudden death of Mrs. Dorothy Bowman whilst on holiday in the Lake District. In recent years she has been a regular attender at all our meetings both indoor and in the field. She will be a great loss to the Union and our sympathy goes out to John, who will miss her terribly.

THE SOCIETIES NORTHERN NATURALISTS' UNION

The 155th Field Meeting was held in the Derwent Valley, starting at Rowlands Gill on Saturday 31st May 1980. About 50 members and friends, led by Mr. R. Purvis of the Annfield Plain and District Naturalists' Field Club, followed the old railway line, now the Derwent Walk, from Rowlands Gill towards Lintz, turning off the track to descend via a woodland path to the ink factory at Lintzford.

The track was lined with seedling willows, birches, rowans, etc. which have grown up since the railway closed. The mixed deciduous woods on each side of the track had obviously provided seeds in abundance. Typical woodland flowers were also invading the edges. Bluebell, wood anemone, woodruff, dog's mercury, wild garlic, red campion, common violet and herb robert were all thriving. In the woodland near Lintzford a large colony of common cow-wheat was a pleasing sight.

The damp shaded wall alongside the track proved to be a very good place for the growth of mosses, which Mr. Hall found very interesting. He is presently working on their identification and a full list will be published in a future edition.

The bushes along the track were literally swarming with insects. The beating tray was used to good effect collecting dozens of specimens at every tap from the stick. Dr. Geyer worked away at the spiders, the two commonest being *Araneus cucurbitinus* and *Theridion denticulatum*. Caterpillars of winter moth, scarce umber, common umber, autumn moth, november moth and July highflyer, were just some of the many species that appeared on the tray and these were all in very large numbers. St. Mark's Fly was on the wing everywhere.

At the bridge across the Derwent at Lintzford some of the party elected to return to Rowlands Gill by the main road, whilst the rest crossed to the west side of the valley and followed a field path into Chopwell Woods. Along the wall a dense growth of stinging nettle supported numerous groups of Small Tortoiseshell Butterfly caterpillars still feeding together in families, and also numerous larvae of the Nettle Tap Moth in the spun up leaves near the tips of the plants.

Just entering Chopwell Woods we were able to admire a fine stand of Wood Cranesbill. Inside the wood a huge ant heap of pine needles marked the track where we turned off the main forestry road to the reclaimed site of Victoria Garesfield Colliery. Here we stopped for a picnic tea before returning to Rowlands Gill through Axwell Woods.

The outing had started with rain threatening but it brightened up to give a very pleasant afternoon and evening.

NOTES AND RECORDS

NOTES

Red Squirrels. Red squirrels have been rather few and far between in the eastern industrial parts of our counties for many years now, except for a thriving colony in Castle Eden Dene. In the western parts its distribution has always been more widespread and could perhaps be described as common in some parts. In the past we have come across signs of them on N.N.U. Field Meetings at such places as Salter's Gate, Hamsterley Mill and Chopwell Woods in the Derwent Valley and Hamsterley Forest in Weardale all in Durham County (the old v.c.66) whilst in Northumberland there is no scarcity of it round Hexham or in the Kielder Forest.

Nevertheless, it was with some surprise and a great deal of pleasure that with Dr. P. Doody we came across one in the Hermitage Woods at Chester-le-Street on 17th July 1979. On further enquiries from the administration officer at Hermitage Hall I was told that red squirrels had arrived the previous year and that two families had successfully bred in 1979.

T.C.D.

Himalayan Balsam. Further to my note in the *Vasculum* Vo.62, No.4, bees of several species were very common at the flowers of *Impatiens glandulifera* (Himalayan Balsam) growing on the river banks at Chester-le-Street during August 1979. New pollinating species not noted previously were *Bombus muscorum* and *Bombus ruderarius*.

T.C.D.

The Silver-Y Moth. December is a poor month for most insects except perhaps the Winter Moth. It was a surprise, therefore, to find a specimen of *Plusia Gamma* L. at the lights at Washington Ambulance Station on 14th December 1979. It was in very good condition indicating

that it may have been born in this country and emerged at a time when most insects are sleeping it off!

Ron Henderson

Lumpsuckers. On may 5th 1980, I observed pieces of several large lumpsuckers (at least 3 whole specimens) washed up on the beach at Newton-by-the-Sea, Northumberland, in the rockpools just south of the wrecked boat. The specimens were about 300mm long. Parts of the spiny skin with scales, resembling that of rays, and the internal skeleton were dotted around. This record supplements an enquiry to the Hancock Museum about two weeks previously of a fish washed up near Bamburgh, which, from its description, was also a lumpsucker. *Cyclopterus lumpus* is a stout-bodied marine fish with two dorsal fins and rows of large bony plates in the skin, and a large sucker disc on the belly. It is greyish or greyish-green on the back and paler ventrally. Males show orange or reddish tints on the belly in the breeding season. The lumpsucker is a common fish in the North Sea and in the spring makes an inshore migration to spawn at, or below low tide mark. Once seen, it is not forgotten. The Scandinavians particularly prize it for the roes, which when salted and dyed are sold as caviare.

Sue Turner

Books. Sue Turner above is emigrating to Australia in the very near future to take up an appointment in a museum in Queensland. She has Linnaean Society Journals and Scientific Americans which she would like to dispose of before leaving. Any interested member may inspect them at the Hancock Museum at any time.

Ed.

Holy Island Notes. I stayed on Holy Island from May 10th to May 17th 1980.

The weather was very sunny but with a cold south east wind persisting for five days out of the seven. However, I did see some rather unusual birds, like a Black Tern which came for the whole day on May 12th before it moved on, and two Little Gulls which arrived on the Lough on May 13th where they stayed for two days.

There was not a lot of bird movement but I saw two whinchats, one redstart and an odd wheatear with spotted flycatchers, garden warblers and willow warblers in ones and twos.

The swallows and house martins had just arrived with me on the 10th. Within two days the latter had started nest building but had a difficult time finding mud in the dry conditions. They eventually found what they wanted in the village drain.

The plants were somewhat behind due to the low temperatures but a few were seen in flower. These were Meadow Saxifrage (*Saxifraga granulata*), Early Forget-me-not (*Myosotis hispida*), Cuckoo Flower (*Cardamine pratensis*), Water Crowfoot (*Ranunculus aquatilis*) and Slender Speedwell (*Veronica filiformis*).

L. P. Hird

Moles. During March and April pasture land everywhere erupted with mounds of earth thrown up by feeding moles. I cannot remember a year when I have seen more. To the farmer, of course, they are a nuisance, interfering with his cutting machines and even causing damage. The open spring and high soil temperatures suit the mole and they must turn over hundreds of acres of soil each year. At one time it paid mole-catchers to trap as many as possible for their velvet skins. When cured the fur became coat collars and ladies' muffs. Now this is no longer the fashion nor would it be looked upon with any great favour by the animal protection movement. So fewer moles are captured and numbers are now increasing so much as to become almost embarrassing.

R.Pirt

Fieldfares. At about 5.30 p.m. on 2nd May 1980, whilst working in my garden, I heard the usual call of fieldfares flying overhead. The flock numbered about 200 birds and they were travelling in an easterly direction, apparently on migration back to their Baltic summer breeding grounds.

This date seems to me to be unusually late. Most fieldfares have gone by the middle of March and with the spring being so open, I would have expected them to have left earlier than usual rather than later.

Has anyone an explanation? My own theory is that the birds may now be going further afield for their winter feeds, which is very largely hips and haws from our hedgerows, and thus taking longer to return. The practise of shearing hedgerows to such abysmal levels each autumn has deprived these birds of much of their winter sustenance.

R. Pirt

An adder in East Boldon. An adder, *Vipera berus* L. was brought to the Sunderland Museum on 13th June 1980, having been killed in the garden of the donor in The Hawthorns, East Boldon (NZ 366614), a new 10km square record. Reptiles are noticeably under-recorded in N.E. England, as a glance at the *Provisional Atlas of the Amphibians and Reptiles of the British Isles* (Arnold, H.1973) will testify. For this reason also this is an event worth recording, but even more so for the fact that the animal was surviving in a suburban garden on the magnesian limestone — a most atypical adder habitat. The possibility that the animal was an escape cannot be completely ruled out, but it is a fact that adders are extremely difficult to keep in captivity. The specimen had suffered somewhat from the attention of a garden spade, but it has been preserved as a specimen for the research collections.

Peter Davis

RECORDS
COLEOPTERA BEETLES

<i>Amara spreta</i> (Dejean)	62
In the dunes at Coatham	
<i>Philopodon plagiatius</i> (Schaller)	62
With the above species	
<i>Otiorynchus atroapterus</i> (Degeer)	62
Also with the above species	
<i>Platydracus stercorarius</i> (Olivier)	66
In the dunes at Seaton	
<i>Hydnobius perrisi</i> (Fairmaire)	66
This rare beetle was found with the above.	
<i>Pterostichus angustatus</i> (Duftschmidt)	62
Eston Moor (NZ 5617), under stones on burnt heathland 28.4.79. This species has been recorded in Britain only this century.	
<i>Pterostichus adstrictus</i> (Esch.)	62
This northern form was found with the above species.	
<i>Amara curta</i> (Dejean)	62
This rare beetle was also found on Eston Moor, under a stone on the grassland of Eston Bank on 17.5.78. There is a record of this species early this century at Eston, but on the coast.	
<i>Carabus nitens</i> (L.)	62
About half a dozen were seen on moorland in Cleveland (NZ61) in May, June and July of 1978. They were on mire, burnt ground or grassland with short vegetation. One specimen was black with only traces of the normal bright green and copper colouration.	
	D. Horsefield
<i>Triplax scutellaris</i> (Charpentier)	67
Found at Gosforth Park Nature Reserve on a Natural History Society of Northumbria meeting, July 1979. The species has only been recorded in Britain previously from Gibside (vc 66) in Durham by Bagnall in 1905-6. Det. Dr. M. L. Luff.	

Mark Walker

ODONATA DRAGONFLIES

<i>Aeshna cyanea</i> (Muller) The Southern Hawker	66
Hawthorn Hive.	
<i>Aeshna grandis</i> (L) The Brown Hawker	66
Brasside Ponds.	
<i>Coenagrion puella</i> (L) The Azure Damselfly	66
Tursdale Ponds, Page Bank Pond.	
<i>Enallagma cyathigerum</i> (Charp.) The Common Blue Damselfly	66
Recorded from a number of sites in Durham including Joe's Pond and Witton-le-Wear Nature Reserve.	
<i>Ischnura elegans</i> (van der Linden) Blue-tailed Damselfly	66
From a number of sites in Durham including Brasside Ponds and Page Bank Pond.	
<i>Lestes sponsa</i> (Hansemann) The Emerald Damselfly.	66
Page Bank Pond, Hetton Pond.	
<i>Pyrrhosoma nymphula</i> (Suizer) Large Red Damselfly	66
From a number of sites in Durham including Tursdale Ponds and Witton-le-Wear Nature Reserve.	
Michael Rebane.	

DIPTERA-FLIES

<i>Molophilus variispinus</i> (Starg.)	66
Castle Eden Dene, beaten from hornbeam 5.9.78. Added to the British List in 1977, this is probably the first record of its capture in Durham. Det. A. E. Stubbs.	
<i>Molophilus pusillus</i> (Edwards)	66
A scarce species in Britain. Beaten from currant in Castle Eden Dene, 19.5.78. Det. A. E. Stubbs.	
<i>Erioptera nigripalpis</i> (Goelghebuer)	66
A rare and mainly southern crane-fly. Beaten from bramble 19.5.78, Castle Eden Dene. Det. A. E. Stubbs.	
D. A. Sheppard.	

HETEROPTERA BUGS

<i>Megalonotus chiragra</i> (Fab.)	62
Coatham Dunes, in litter around <i>Anmophila</i> tussocks, 1978.	
<i>Fieberocapsus flaveolus</i> (Reuter)	62
With the above species	
<i>Conostethus griseus</i> (Douglas & Scott)	66
This saltmarsh bug was taken at Cowpen Marsh on 20.6.78. The last record on Teesside was for 'Middlesbrough' in 1934.	
<i>Campylosteira verna</i> (Fallen)	62
At Hunt Cliff (NZ6921) on 8.1.78. This distinctive Lacebug was collected from moss in the grassland on the sea-cliffs. There is an old record for Northumberland so it may be that this species is to be found on the sea-cliffs further north.	
D. Horsefield.	

LEPIDOPTERA BUTTERFLIES AND MOTHS

<i>Epiblema foenella</i> L.	66
One at light, Brierton Lane, Hartlepool, 15.8.77.	
<i>Eupithecia simpliciatata</i> Haw. Plain Pug	66
One caught amongst <i>Chenopodium</i> and <i>Atriplex</i> on the Tees marshes near Saltholme, 19.8.78.	
<i>Macroglossum stellatarum</i> L. Humming-bird Hawkmoth	66
One in the Old Cemetery, Hartlepool, 21.7.79.	

<i>Photedes elyrii</i> Treits. Lyme Grass	66
One caught by D. Clayton at Seaton Carew Power Station, 27.7.78.	
<i>Herminia tarsipennalis</i> Treits. Common Fanfoot	66
One at lighted window, Granville Avenue, Hartlepool, 10.8.79.	
	R. T. McAndrew.
<i>Pyrrhia umbra</i> Hufn. Bordered Sallow	66
One at light, Kent Bank, Middleton-in-Teesdale, 29.6.79.	
	I. Findlay
<i>Standfussiana lucerneae</i> L. Northern Rustic.	66
Flying freely during daylight along the quarry face, Scutter Hill Quarry, Westgate, 13.8.79.	
<i>Chesias legatella</i> D. & S. The Streak	66
Findon Hill, Sacriston, 10.10.79. (Also taken by M. Mann in the same area 5.10.79).	
<i>Apeira syringaria</i> L. Lilac Beauty.	66
One at Findon Hill, Sacriston, 26.7.79.	
	K. Dover
<i>Nola cucullatella</i> L. Short Cloaked Moth	66
This appears to be the first Durham record for this easily overlooked species. One at M.V. light, Findon Hill, Sacriston, 16.7.79. (Det. T. C. Dunn).	
<i>Spaelotis ravidata</i> D & S. Stout Dart.	66
This very rare moth was taken at sugar on a telegraph pole, Findon Hill, Sacriston, 8.8.79.	
<i>Nudaria mundana</i> L. Muslin Footman.	66
Findon Hill, Sacriston, 30.7.79.	
<i>Eupithecia exiguata</i> Hb. Mottled Pug	66
Findon Hill, Sacriston, 2.7.79.	
<i>Eupithecia absinthiata</i> Cl. Wormwood Pug	66
Findon Hill, Sacriston, 28.7.79 and 3.8.79.	
<i>Chloroelystis rectangularata</i> L. Green Pug	66
Findon Hill, Sacriston, 18.7.79.	
<i>Rhizedra lutosae</i> Hb. Large Wainscot	66
Four specimens appeared at light on 3.10.76 and three on 5.10.77, at Findon Hill, Sacriston.	
	M. Mann
<i>Acronicta leporina</i> L. Miller	66
At light. Cross Lanes, Sacriston, 18.6.79.	
<i>Hecatera bicolorata</i> Hufn. Broad-barred White.	66
At light. Cross Lanes, Sacriston, 25.6.79.	
<i>Xestia triangulum</i> Hufn. Double Square Spot.	66
At light. Cross Lanes, Sacriston, 8.7.79.	
<i>Cucullia umbratica</i> L. The Shark.	66
At light. Cross Lanes, Sacriston.	
<i>Erynnis tages</i> L. Dingy Skipper	66
Lingey Close, Sacriston, 25.5.79, also most years along the borders of Sacriston Wood.	
	R. Woods.
<i>Cucullia chamomillae</i> D & S. Chamomile Shark	67
One at light. Melton Park, Gosforth.	
<i>Furcula furcula</i> Cl. Sallow Kitten	67
One at light. Melton Park, Gosforth, 1.6.79.	
<i>Acronicta leporina</i> L. Miller	67
One at light Melton Park, Gosforth 27.6.79.	

<i>Pseudoips fagna</i> Fabr. Green Silver-lines	67
One at light. Melton Park, Gosforth, 2.7.79.	
<i>Autographa bractea</i> D & S. Gold Spangle.	67
One at light. Melton Park, Gosforth.	
<i>Polychristia moneta</i> Fabr. Golden Plusia.	67
Four at light. Melton Park, Gosforth, one each on 10.7.79, 17.7.79, 27.7.79 and 29.7.79.	
<i>Anaplectoides prasina</i> D & S. Green Arches.	67
One at light. Melton Park, Gosforth, 13.7.79.	
<i>Deilephila porcellus</i> L. Small Elephant Hawkmoth.	67
This species is usually seen in coastal habitats but one appeared at light at Melton Park, Gosforth on 16.7.79.	
Mark Walker	
<i>Acronicta rumicis</i> L. Knot Grass	66
Common at Witton-le-Wear Nature Reserve each year.	
<i>Cryphia domestico</i> Hufn. Marbled Beauty.	66
First taken at Witton-le-Wear, 10.7.75. and subsequently.	
<i>Agrotis exclamationis</i> L. Heart and Dart.	66
Common every year at Witton-le-Wear.	
<i>Paradiarsia glareosa</i> Esp. Autumnal Rustic.	66
First taken at Witton-le-Wear, 24.8.76, and subsequently.	
<i>Xestia sexstrigata</i> Haw. Six-striped Rustic.	66
Common every year at Witton-le-Wear.	
<i>Xestia baja</i> D & S. Dotted Clay.	66
First seen at Witton-le-Wear 22.7.76. and subsequently.	
<i>Xestia xanthographa</i> D & S. Square-spot Rustic.	66
Very common at Witton-le-Wear.	

Fred Stubbs.

The following notes have been compiled over a number of years by collecting at night, at the lights along the road from Highfield through Hookergate and High Spen to Chopwell.

<i>Laothoe populi</i> L. Poplar Hawk.	66
Common everywhere.	
<i>Deilephila elpenor</i> L. Elephant Hawk-moth.	66
Common 1976 and 77.	
<i>Furcula furcula</i> Cl. Sallow Kitten.	66
One only in 1976 and another in 1977.	
<i>Pheosia tremula</i> Cl. Swallow Prominent.	66
Common every year.	
<i>Pheosia gnomo</i> Fabr. Lesser Swallow Prominent.	66
Also common every year.	
<i>Notodonta dromedarius</i> L. Iron Prominent.	66
Not very common.	
<i>Ptilodon capucina</i> L. Coxcomb Prominent.	66
Fairly common.	
<i>Odontotia carmelita</i> Esp. Scarce Prominent.	66
This species has already been recorded in this journal when it was first seen herein 1976, now known to be common.	

R. Henderson

ISSN 0049-5891

THE VASCULUM

OCTOBER 1980

Vol. 65, No. 3

Price £2.50 per annum, post free

Edited by:

T.C. DUNN, M.Sc.

The Poplars, Chester-le-Street, Co. Durham

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Published by

THE NORTHERN NATURALISTS' UNION

SUBSCRIPTIONS

May we, once again, remind readers that subscriptions were due on January 1st. last. A few are still unpaid. Would the guilty ones please be good enough to let the Hon. Treasurer have the money as soon as possible. Since the Northern Naturalists' Union is an organisation without any capital and without any source of income other than your subscriptions, and since the Vasculum has to be paid for before it is passed over the counter so to speak, it follows that your money is absolutely necessary for its continued production on time.

EDITORIAL

Once again we are offering you, the readers, an enlarged special October edition, in spite of the continuing rise in printing costs. On the credit side we are much heartened by the abundance of research material that flows into our hands. Because of this we will endeavour to go on with the project as long as we can.

CLEVELAND SPIDERS 1978-79**D. HORSFIELD****Museums Services, Halifax Buildings, Albert Road, Middlesbrough****Introduction**

Spiders (Araneae) were collected from a number of sites, representing certain major habitat types, in Cleveland. Over one-third of the total British species were found. Previous lists for the area are those of Falconer (1910), Harrison (1909, 1914, 1918) and Hull (1900).

Methods

The collection of spiders began on 29/12/77 and ended on 26/5/79. Spiders were collected at six sites - Seaton Dunes, Coatham Dunes, Cowpen and Greenabella Marshes, Eston Moor, parts of the North Yorks Moors and Kilton Woods throughout the year; and at Hart Bog in the first half of 1978. The collecting methods used at each of these seven sites were pitfall trapping, sweep-netting, and hand searching of litter, under stones etc. Spiders were also collected by hand searching at other sites, which were visited once or twice and only the additional species from these are given in the results. The names of the spiders follow the check list in Locket et al (1974) with changes in recent Bull. Br. arachnol. Soc.

Sites

The habitats in which spiders were collected are briefly described. The 1 km grid squares within which spiders were collected follow the site names.

Seaton Dunes (NZ5328, 5327) and **Coatham Dunes** (NZ5527, 5526, 5626, 5725, 5825)

The major habitats on both sites were (i) tidal debris (ii) pioneer dunes with *Elymus arenarius* and *Agropyron junceiforme* (iii) fore dunes with *Ammophila arenaria* (iv) dry dune meadow on stable sand with a variety of both tall herbs and low growing herbs and moss (v) wet (freshwater) slacks with *Juncus*, tall grass and low growing herbs and moss. At Seaton only were areas covered by a dense scrub of Sea Buckthorn, *Hippophae rhamnoides* (to 2m in ht.). At Coatham only were (i) saltmarsh with *Puccinellia maritima*, *Festuca rubra* and *Cochlearia* (ii) slag tips partially covered by low growing plants (iii) freshwater marsh with open water and tall marginal vegetation.

Cowpen and Greenabella Marshes (NZ5025, 5024, 5125).

These saltmarshes bordered G reatham Creek and consisted mainly of short vegetation and bare mud. At Cowpen there was a grazed dry grassland and freshwater marsh with taller vegetation.

Hart Bog (NZ4535).

A small kettle-hole floating bog with a central *Sphagnetum* with *Calluna* and a wet periphery also with *Sphagnum*, and taller vegetation including *Eriophorum*, *Juncus*, *Carex*, *Salix*. Alt. 107m.

Eston Moor (NZ5617).

(i) recolonised burnt ground with bare areas (ii) *Calluna* Heath (iii) grassland with *Deschampsia flexuosa* and *Nardus stricta* (iv) birch scrub (to 5m in ht.) (v) wet slack with *Sphagnum* and *Juncus* (oligotrophic mire). Alt. 200m.

North Yorks Moors (NZ6012, 6513, 6611, 6911).

(i) *Calluna* heath (ii) bracken (*Pteridium*) (iii) oligotrophic mire with *Sphagnum*, *Juncus*, *Molinia*, *Eriophorum* (both in slacks and on slopes) (iv) short grassland. Alt. 210-300m.

Kilton Woods (NZ7018, 7017).

Mixed woodland on steep valley sides with boulder clay. Ground flora with *Luzula sylvatica*, *Mercurialis*, *Hedera*, *Pteridium*, and on damper ground *Chrysosplenium*, *Equisetum* and *Filipendula*.

Results

The Table gives the numbers of individuals of each species caught at the seven sites described above. The numbers are mainly adults but juveniles and sub-adults are given for species and genera where no adults were taken and identification was possible. The numbers give some idea of the relative abundance of species.

'A Nature Conservation Review' (NCR) (Ratcliffe, 1977) gives lists of spiders typical of, or more or less restricted to, certain habitats. Eight species - *Philodromus fallax*, *Pardosa purbeckensis*, *Arctosa perita*, *Silometopus incurvatus*, *S. ambiguus*, *Erigone arctica*, *E. longipalpis* and *Halorates reprobus* are among those considered 'coastland' spiders by NCR. Two of these *A. perita* and *E. arctica* were not restricted to the coast in Cleveland. *A. perita* was taken from bare sandy ground on old ironstone workings at Loftus Quarry (NZ7320), and similarly, but outside Cleveland, at Rosedale Head (NZ6701) at an altitude of 395m. Only two specimens of *E. arctica*, less than 0.1% of the total adult spiders taken, were found on bare ground on Eston Moor. The species was probably a temporary resident. Though *E. arctica* is found on mountains in Scandinavia, inland records in Britain are rare. *S. incurvatus* is a species of the fore-dunes found only in N. England and Scotland. *P. fallax*, at its most northerly recorded limit on the east coast in Cleveland, was found on bare, sandy ground in the dune meadow. The other four species are widely distributed around the British coast in saltmarsh. Six species taken only at the coastal sites (*Clubiona neglecta*, *Euophrys aequipes*, *Enoplognatha thoracica*, *Theridion bimaculatum*, *Ceratinopsis stativa* and *Micrargus subaequalis*) are listed in NCR as spiders of 'low-land heathlands and grasslands'. They are all local species in N. Britain.

Of the species on the moorland and bog sites 40 are on one of three lists in NCR - 'lowland heathlands and grasslands' (12), 'peatland' (24), or 'sub-montane' (4)

spiders. The 'sub-montane' category of NCR includes 30 species more often encountered on high ground and the four Cleveland species (*Trichopterna menzei*, *Caledonia evansi*, *Porrhomma montanum* and *Meioneta gulosa*) are but a small selection of commoner ones. The maximum altitude of moorland in Cleveland at about 300m is apparently too low for any of the 17 'montane' species (more or less restricted to high ground) listed in NCR. Many of the more local species of the moorland (e.g. *Robertus arundineti*, *Theonoe minutissima*, *Walckenaera kochi*, *W. vigilax*, *Hypselistes jacksoni*, *Notioscopus sarcinatus*, *Araeoncus crassiceps* and *Aphileta misera*) were found in the wet *Sphagnum* of oligotrophic mires.

At Kilton Woods were found 26 species regarded by NCR as 'woodland' spiders, which included 14 'almost exclusive woodland species' (*Clubionan compta*, *C. brevipes*, *Anyphaena accentuata*, *Anelosimus vittatus*, *Theridion pallens*, *Araeoncus sturmi*, *Goniatium rubellum*, *Tapinocyba pallens*, *Microneta viaria*, *Drapetisca socialis*, *Labulla thorocica*, *Helophora insignis*, *Linyphia hortensis* and *L. (Nertene) peltatai*). Four of these species (*C. compta*, *T. pallens*, *M. viaria* and *H. insignis*) were also found on Eston Moor in the birch scrub and *T. pallens* also in *Calluna* heath. *T. pallens* was also taken in litter under *Calluna* and bracken on the N. Yorks Moors. Another species that should perhaps be included in the woodland list is *Entelecara acuminata*, which is close to its northern limit on the east coast at Kilton Woods, where it was swept from trees. *Thyreosthenius parasiticus*, which was found under the bark of dead trees in Kilton Woods, has apparently only recently been recorded from this habitat, being previously found in subterranean places or birds' nests (Locket et al, 1974). Bog or marsh was not included in my sampling area in Kilton Woods and consequently only three species (*Diplocephalus permixtus*, *Hilaira excisa* and *Porrhomma pygmaem*) from the wood were on the list of 'peatland' species in NCR. Since none of these three are restricted to peatland (though often abundant there) they are better regarded as 'hygrophilous' or preferring damp places. *P. pygmaem* may also occur sparingly in drier places and at Kilton Woods was taken in small numbers from leaf litter, and with *D. permixtus* under stones by Kilton Beck. *H. excisa* was taken near running water among *Chrysosplenium*.

In addition to the 206 species listed in the Table, a further 13 species were taken at other sites. These were as follows, *Oonops pulcher* Templeton in tall grassland at Marske Sands (NZ6422) and under bark at Saltburn Gill Woods (NZ6720). *Oonops domesticus* de Dalmas and *Herpyllus blackwalli* (Thor.) indoors at Saltburn (NZ6621). *Harpoctea hombergi* (Scop.) and *Diplocephalus cristatus* (Bl.) in maritime grassland on Hunt Cliff (NZ7021). *Segestria senoculata* (L.) in a crevice on the quarry face at Loftus Quarry (NZ7320). *Euophrys frontalis* (Walck.) under stones on the spoil heap at Liverton Mines (NZ7017) and in grassland on Hunt Cliff. *Tetrax denticulata* (Ol.) under stones on dry ground with sparse vegetation at Loftus Quarry and in a rock crevice at Hunt Cliff. *Evansia merens* O.P.-C., which is one of a small group of spiders associated with ants, under a stone at Loftus Quarry with *Formica lemni* Bondroit. *Troxochrus cirrifrons* (O.P.-C.), with *T. scabriculus* in the dunes on cliffs at Marske Sands. *Tapinocyba insecta* (L. Koch) deep in leaf litter at Thorpe Wood (NZ4024). *Porrhomma pallidum* Jackson at Thorpe Wood and Saltburn Gill

Woods. *Leptorhoptrum robustum* (Westr.) at Billingham Bottoms in freshwater marsh (NZ4522).

Locket et al (1974) give 160 species as recorded in Durham (VC66) which is about half the number from Northumberland or the North Riding of Yorks. My records (from north of Tees) bring this up to about 210. A few of these species are not given in the Table or above and are *Meioneta rurestris*, *Centomerus dilutus* and *Macrargus rufus* at Thorpe Bulmer Dene (NZ4536); and *Dismodicus bifrons* *Diplocephalus picinus*, *Lepthyphantes tenebricola* and *L. pallidus* at Thorpe Wood. New records for VC 62 were two only - *Tegenaria agrestis* and *Walckenaera incisa*. *T. agrestis* is larger than the common house spider *T. domesticus* and is a new immigrant (Merrett, 1979) which has spread to much of Britain since first found in Hants in 1949. With the exception of a record for Midlothian, Coatham is its most northerly station in Britain. It favours man-made habitats such as quarries and tips. At Coatham I found it under pieces of slag, where it builds a sheet web around the sides of the piece of slag and out into the surrounding vegetation. The slag was always resting on the surface of the ground, and on short vegetation. Three other species were restricted to the tips at Coatham - *Dysdera crocata* which is a nocturnal hunter; *Amaurobius similis* which builds a web on the underside of slag and captures animals seeking refuge; and *Zygiella x-notata* which builds orb-webs among the larger blocks of slag. Therefore *T. agrestis* has occupied a new niche. A single male *W. incisa* was taken in a pitfall trap in a clearing near Kilton Beck. It is widely distributed in England and Wales but rare.

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TABLE

Total adult individuals caught of each species at seven sites in Cleveland during 1978- 79, juvenile or sub-adult individuals indicated thus ().

Key to sites:

SO	Seaton Dunes
CD	Coatham Dunes
GC	Greenabella and Cowpen Marshes
HB	Hart Bog
EM	Eston Moor
NM	North Yorks Moors (parts)
KW	Kilton Woods

Species	SD	CD	GC	HB	EM	NM	KW
<i>Amaurobius fenestralis</i> (Stroem)							8
<i>A. similis</i> (Bl.)	1	6					
<i>Dictyna arundinacea</i> (L)					1	5	
<i>O. uncinata</i> Thor.		3					
<i>Oysdera eroeata</i> C.L.K.		2					
<i>Drassodes cupreus</i> (Bl.)		7				5	
<i>Haplodrassus signifer</i> (C.L.K.)	2	21				4	
<i>Drassodes/Haplodrassus</i> spp.	2					(12)	
<i>Micaria pulicaria</i> (Sund.)	3	5				1	
<i>Clubiona reclusa</i> O.P.-C.					8		2
<i>C. stagnatilis</i> Kulc.	29	20					
<i>C. pallidula</i> (Cl.)							2
<i>C. phragmitis</i> C. L. K.		18					
<i>C. terrestris</i> Westr .						2	
<i>C. neglecta</i> O.P.-C.	1	4	1				
<i>C. lutescens</i> Westr.							1
<i>C. compta</i> C.L.K.					3		1
<i>C. brevipes</i> Bl.							1
<i>C. diversa</i> O.P.-C.	2	4			6		
<i>C. trivialis</i> C.L.K.				3		1	
<i>Agroeca proxima</i> O.P.-C.	112	49			9	2	
<i>Amyphaena accentuata</i> (Walck.)							(5)
<i>Xysticus cristatus</i> (Cl.)	6	49			1	2	
<i>X. erraticus</i> (Bl.)					1		
<i>X. sabulosus</i> (Hahn)					1		
<i>Oxyptila trix</i> (Bl.)				1		(4)	
<i>Philodromus cespitum</i> (Walck.)					1		
<i>P. fallax</i> Sund.	(1)	(1)					
<i>Philodromus</i> spp .	(4)					(2)	(1)
<i>Salticus scenicus</i> (Cl)	2	2					
<i>Heliophanus flavipes</i> C.L.K.		1					
<i>Heliophanus</i> sp .					(2)		
<i>Neon reticulatus</i> (Bl.)						1	
<i>Euophrys aequipes</i> (O.P.-C.		5					
<i>Euophrys</i> sp.	(1)						
<i>Sitricus caricis</i> (Westr.)				1			
<i>Pardosa purbeckensis</i> F.O.P.-C		29	5				
<i>P. palustris</i> (L.)	1	7			5	1	
<i>P. pullata</i> (Cl.)	67	164	10	30	204	10	2

<i>P. amentata</i> (Cl.)					1	4
<i>P. nigriceps</i> (Thor.)				12	31	26
<i>Alopecosa pulverulenta</i> (Cl.)		119			56	5
<i>A. accentuata</i> (Latr.)					2	
<i>Alopecosa</i> sp.	(11)		(4)			
<i>Trochosa ruficola</i> (Deq.)	1		15			
<i>T. terricola</i> Thor.					13	1
<i>Aretosa perita</i> (Latr.)	1	9				
<i>Pirata piraticus</i> (Cl.)	63	6	(8)	83	15	115
<i>P. hygrophilus</i> Thor.						2
<i>Tegenaria agrestis</i> (Walek.)		12				
<i>T. domestica</i> tcu		1				
<i>Coelotes atropos</i> (Walek.)						6
<i>Cryphoeca silvicola</i> (C.L.K.)						6
<i>Antistea elegans</i> (Bl.)				23	24	34
<i>Hahnia montana</i> (Bl.)						4
<i>H. nava</i> (Bl.)					1	
<i>Ero cambridgei</i> Kulc.	2	11		2		1
<i>E. furcata</i> (Villers)		2			1	
<i>Anelosimus vittatus</i> (C.L.K.)						2
<i>Theridion sisyphium</i> (Cl.)					3	2
<i>T. pallens</i> Bl.						37
<i>T. bimaculatum</i> (L.)		1				
<i>Enoplognatha ovata</i> (Cl.)	9	3			1	1
<i>E. thoracica</i> (Hahn)	1	45				
<i>Robertus lividus</i> (Bl.)			2		8	26
<i>R. arundineti</i> (O.P.-C.)						3
<i>Pholcomma gibbum</i> (Westr.)	6	4			3	2
<i>Theonoe minutissima</i> (O.P.-C.)					2	20
<i>Tetragnatha extensa</i> (L.)	16					
<i>T. montana</i> Simon						3
<i>Tetragnatha</i> sp.		(6)			(1)	(7)
<i>Pachygnatha elercki</i> Sund.	9	18	9	4	5	4
<i>P. listeri</i> Sund.						4
<i>P. degeeri</i> Sund.	18	42	7		5	2
<i>Meta segmentata</i> (Cl.)	3	7			13	23
<i>M. mingei</i> (Bl.)						6
<i>M. merianae</i> (Scop.)						1
<i>Araneus diadematus</i> Cl.					(1)	(1)
<i>A. quadratus</i> Cl.	31	1			2	(5)
<i>A. cornutus</i> Cl.	12					
<i>A. sturmi</i> (Hahn)						1
<i>A. umbraticus</i> Cl.						2
<i>Zygiella x-notata</i> (Cl.)	3	2				
<i>Z. atrica</i> (C.L.K.)						
<i>Ceratinella brevipes</i> (Westr.)				17	13	14
<i>Notioscopus sarcinatus</i> (O.P.-C.)						9
<i>Walckenaera acuminata</i> Bl.	4	1	3		5	5
<i>W. antica</i> (Wider)	10	7			1	1
<i>W. nodosa</i> O.P.-C.					16	
<i>W. incisa</i> (O.P.-C.)						1
<i>W. nudipalpis</i> (Westr.)				6	7	5
<i>W. monoceros</i> (Wider)		16			2	2
<i>W. unicornis</i> O.(P.-C.)	6	29			5	1

<i>W. kochi</i> (O.P.-C.)			1		3	3		
<i>W. cuspidata</i> Bl.					1		13	
<i>W. vigilax</i> (Bl.)	1	5			2			
<i>Dicymbium nigrum</i> (Bl.)					1			
<i>D. brevisetosum</i> Lockett		2	3					
<i>D. tibiale</i> (Bl.)							23	
<i>Dicymbium</i> spp. - females					1			
<i>Entelecara acuminata</i> (Wider)							12	
<i>E. erythropus</i> (Westr.)							1	
<i>Gnathonarium dentatum</i> (Wider)			14	16				
<i>Gongylium rufipes</i> . (Sund.)							9	
<i>Dismodicus bifrons</i> (Bl.)	7	32						
<i>Hypomma bituberculatum</i> (Wider)	37	53				1		
<i>Hypomma</i> sp.						(2)		
<i>Gonatum rubens</i> (Bl.)	4	15	1		2	18		
<i>G. rubellum</i> (Bl.)								24
<i>Minyrioloides trifrons</i> (O.P.-C.)	2		1					
<i>Maso sundevalli</i> (Westr.)					73	2	3	
<i>Peponocranium ludicrum</i> (O.P.-C.)		6		11	9	5		
<i>Pocadicnemis pumila</i> (Bl.)	1	4			6	10	6	
<i>Hypselistes jacksoni</i> (O.P.-C.)						3		
<i>Oedothorax gibbosus</i> (Bl.)				9	2	11		
<i>Oe. tuberosus</i> (Bl.)				5	1	16		
<i>Oe. fuscus</i> (Bl.)	18	44	12		1	1		
<i>Oe. retusus</i> (Westr.)	7	7	2					
<i>Oe. apicatus</i> (Bl.)	6	3						
<i>Oedothorax</i> app. , - females	54	56	11	20	22	37		
<i>Trichopterna thorelli</i> (Westr.)	7	7		4				
<i>T. menzei</i> (Simon)					28	17		
<i>Silometopus elegans</i> (O.P.-C.)	2				66	21		
<i>S. ambiguus</i> (O.P.-C.)			1					
<i>S. incurvatus</i> (O.P.-C.)	73	159						
<i>Cnephatoctes obscurus</i> (Bl.)				47	7	1		
<i>Ceratinopsis stativa</i> (Simon)			1					
<i>Tiso vagans</i> (Bl.)	32	9	3		4			
<i>Troxochrus scabriculus</i> (Westr.)	15							
<i>Minyriolus pusillus</i> (Wider)						34		
<i>Tapinocyba praecox</i> (O.P.-C.)	47	6			22		8	
<i>T. pallens</i> (O.P.-C.)					21	11	20	
<i>Thyreosthenius parasiticus</i> (Westr.)							2	
<i>Monocephalus fuscipes</i> (Bl.)	10				2	11	78	
<i>Lophomma punctatum</i> (Bl.)		14	1	49	44	9		
<i>Gongyliellum vivum</i> (O.P.-C.)	2	6	1		20			
<i>Micrargus herbigradus</i> (Bl.)					9	1		
<i>M. apertus</i> (O.P.-C.)						8		
<i>M. subaequalis</i> (Westr.)			1					
<i>C. brevis</i> (Wider)					17	8	1	
<i>Erigonella hiemalis</i> (Bl.)						1		
<i>E. ignobilis</i> (O.P.-C.)						31		
<i>Savignya frontata</i> (Bl.)	6		5	21	9		4	
<i>Diplocephalus permixtus</i> (O.P.-C.)	24	115	24	17	261	2	1	
<i>D. latifrons</i> (O.P.-C.)							83	
<i>D. picinus</i> (Bl.)						115	107	
<i>Aræonecus humilis</i> (Bl.)							2	

<i>A. crassiceps</i> (Westr.)						1
<i>Caledonia evansi</i> O.P.-C.					5	16
<i>Typhochrestus digitatus</i> (O.P.-C.)	6	50			1	3
<i>Erigone dentipalpis</i> (Wider)	2	34	13		94	1
<i>E. atra</i> (Bl.)	51	184	38	11	163	3
<i>E. promiscua</i> (O.P.-C.)	3	36	3		126	1
<i>E. arctica</i> (White)	10	11	29		2	
<i>E. longipalpis</i> (Sund.)		248	38			
<i>Drepanotylus uncutus</i> (O.P.-C.)		5		13	13	27
<i>Hilaira hardyi</i> (Bl.)		19			64	3
<i>H. excisa</i> (O.P.-C.)					8	8
<i>Halorates reprobus</i> (O.P.-C.)		1	53			1
<i>Ostearius melanopygius</i> (O.P.-C.)		1			1	
<i>Aphileta misera</i> (O.P.-C.)				86	79	12
<i>Porrhomma pygmaeum</i> (Bl.)	5	5	1	11	55	
<i>P. microphalmmum</i> (O.P.-C.)				1		
<i>P. errans</i> (Bl.)						1
<i>P. montanum</i> Jackson						1
<i>Agypteta subtilis</i> (O.P.-C.)				2		
<i>A. conigera</i> (O.P.-C.)	7				7	
<i>A. decora</i> (O.P.-C.)			7	1	1	6
<i>A. cauta</i> (O.P.-C.)					1	
<i>Meioneta ruvestris</i> (C. L. K.)	6	5		2	7	2
<i>M. saxatilis</i> (Bl.)	1	1	3		2	18
<i>M. beata</i> (O.P.-C.)					2	3
<i>M. gulosa</i> (L. Koch)					2	
<i>Microneta viaria</i> (Bl.)					40	3
<i>Centromerus sylvaticus</i> (Bl.)	5	1			10	1
<i>C. expertus</i> (O.P.-C.)		4		42	4	3
<i>C. arcuus</i> (O.P.-C.)					2	2
<i>C. ditus</i> (O.P.-C.)					5	24
<i>Centromeria bicolor</i> (Bl.)	10	92	14		1	6
<i>C. concinna</i> (Thor.)	1	20			10	15
<i>Sintula cornigera</i> (Bl.)					1	1
<i>Oreonetides abnormis</i> (Bl.)					1	10
<i>Macrargus ruius</i> (Wider)						16
<i>Bathypantes approximatus</i> (O.P.-C.)			4		5	5
<i>B. gracilis</i> (Bl.)	30	38	127		23	22
<i>B. parvulus</i> (Westr.)	1	5	2		29	2
<i>B. nigrinus</i> (Westr.)						2
<i>Kaestneria dorsalis</i> (Wider)						32
<i>K. pullata</i> (O.P.-C.)				5		1
<i>Diplostyla concolor</i> (Wider)	1					9
<i>Poeciloneca globosa</i> (Wider)	16	46				1
<i>Drapetisca socialis</i> (Sund.)					1	1
<i>Tapinopa longidens</i> (Wider)	3				7	1
<i>Floronia bucculenta</i> (Cl.)						1
<i>Labulla thoracica</i> (Wider)						1
<i>Stemonyphantes lineatus</i> (L.)		46				3
<i>Borphyphantes luteolus</i> (Bl.)	3	7	1		1	19
<i>Lepthyphantes minutus</i> (Bl.)						5
<i>L. alacris</i> (Bl.)		1			2	47
<i>L. obscurus</i> (Bl.)						3
<i>L. tenuis</i> (Bl.)	96	165	41		24	5
						4

<i>L. zimmermanni</i> Bert.	1	2			101	43	226
<i>L. cristatus</i> (Menge)					1		37
<i>L. mingei</i> Kule.		3		1	37	22	
<i>L. tenebricola</i> (Wider)							38
<i>L. ericaeus</i> (Bl.)	54	66	22	5	27	42	
<i>L. pallidus</i> (O.P.-C.)							43
<i>Helophora insignis</i> O.P.-C.					1		16
<i>Linyphia triangularis</i> (Cl.)	1				4	7	51
<i>L. hortensis</i> Sund.							7
<i>L. (Neriene) montana</i> (Cl.)							4
<i>L. (N.) clathrata</i> Sund.		7					8
<i>L. (N.) peltata</i> Wider							15
<i>Microlymphina pusilla</i> (Sund.)	2	5		1	5	2	
<i>Allomengea scopigera</i> (Grube)	1	1	8				
Total no. adult individuals:	1093	2409	514	584	2184	929	1217

HEDGEROWS OF COUNTY DURHAM
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Introduction

In 1978 the author carried out, for the Durham County Conservation Trust, a botanical and historical hedgerow survey of County Durham. The survey was funded by the Manpower Services Commission. A full report ('Hedges in Durham County') was produced and is available from Durham County Conservation Trust (52 Old Elvet, Durham). This article is based on the report, with occasional updating of the original data.

The term hedge, as used here, refers to a line of shrubs along a field boundary; hedgerow refers to the shrubs together with associated trees, herbs and climbers within and alongside.

During the survey several different types of data were collected. As no single sampling method was sufficient for the variety of data required, a number of different sampling and recording techniques were used throughout the survey period. The term 'significant' is used in its statistical sense, referring to a probability of chance occurrence of below 5%.

The Length of Hedge in Durham

Initially an attempt was made to estimate the total length of hedge in the county, using a combination of 2 1/2, inch maps, aerial photographs and field surveys. The method was to measure the total hedge length in seventy five random kilometre squares of lowland agricultural land and then to extrapolate upwards to give a figure

for the whole county, making allowances for upland, wooded and built-up areas. Figures obtained were 11,667 kilometres (7269 miles) for the old County Durham prior to the creation of Tyne and Wear and Cleveland, and 9618km. (5992 miles) for the present county. Within the county, regional differences in numbers of hedges, apart from those due to altitude (the approximate upper limit being 1000 ft.) were difficult to determine due to high local variation, e.g. between one farm and the next. Consequently it was not possible to conclude that anyone section of the county had more, or less, hedges than average.

For all the following studies, rather than using the old or new county boundaries, the natural boundaries of the rivers Tyne, Derwent and Tees were used to delimit the study area. The study area therefore corresponds to the old County Durham minus the small section north of the river Derwent.

As not all fields have hedges around them, an additional estimate, of the proportion of lowland field boundaries actually hedged, was carried out. 450 fields below 200 metres altitude were randomly selected from over the whole study area: for each field the boundary length was measured on the appropriate 21/2 inch map and the proportion hedged was estimated in the field. (Where adjacent fields were selected their common boundary was only recorded once). The total length of field boundary recorded in this exercise was 382 km., of which 237 km. (62%) was hedged. The remaining 38% consisted of wire or wooden fences, streams, ditches, low banks, lines of trees and occasional walls.

It was not possible to estimate the proportion of hedges lost over the whole county since their creation, due to inadequate records. Over the country as a whole, hedge removal rose to a peak in the 1960's, with an estimated loss of 10,000 miles a year, and decreased in the 1970's. In Durham the picture is very variable, with some areas still much as they were at enclosure, and others having suffered much removal, for example, where opencast coalmining has occurred. Further opencast mining is likely to result in an increased loss of hedges as these are not normally replaced when the land is reclaimed after operations have ceased.

Hedgerow Structure and Management

At 620 sample points in the study area data was collected on height, width, presence of bank and ditch, and management.

Height

Hedges were placed in one of three height classes: low (below 1.5m.) medium (1.5 - 2.1 m.) and high (above 2.1 m.) Hedgebanks, if present, were not included in the height of the hedge. The heights ranged from 0.7 to 6 m., with 60% low, 25% medium, and 15% high.

Width

Three width classes were chosen: narrow (below 1.2m.) medium (1.2 to 2m.)

and wide (above 2m.). The widths ranged from 0.6m. to 5.3m. with 50% narrow, 36% medium, and 14% wide.

Bank and Ditch

Hedgebanks were present in 56% of cases. These were mostly below 0.7m. with a maximum height of 1.2m. Higher banks sometimes appeared to be present along lanes, but these were due to the lane being lower than the adjacent fields. In 4% of cases the bank had been built up against a stone wall, giving the impression (from one side) of a hedge growing on a wall. Ditches were present alongside hedges in 37% of cases.

Management

72% of hedges had been trimmed in the past one or two years and 28% were unmanaged. In few cases were hedges sufficiently stockproof to keep in animals un-aided usually additional barbed wire was necessary. None of the 620 samples had been recently laid, although evidence of previous laying was occasionally encountered in the form of long horizontal or diagonal branches within the hedge. Elsewhere in the county since 1978 the author has encountered only five examples of hedges laid to a professional standard.

Hedgerow Trees

Every tree along the 237 km. of hedgerow previously mentioned was recorded for species and height, being placed in one of three height classes: small (below 6m.) medium (6 - 11 m.) and large (above 11m.). Where a borderline case, intermediate between a small tree and a shrub was encountered, its status was decided on the basis of management, contrast with surrounding hedge, and potential for further growth.

Altogether 1756 trees were recorded, giving an average of one tree per 135m. (Along unhedged field boundaries the figure was one tree per 321m.). 33% of these were classed as small, 30% medium, and 37% large; a ratio of approximately 1: 1: 1. The ratio necessary to ensure continuing replacement of old trees as these die or are felled is of the order of 6 saplings: 3 small: 2 medium: 1 large tree. (Merthyr report 1955). Hence it is likely that the number of hedgerow trees in Durham will decline in future years. Trees are rarely planted by landowners nowadays, and the modern practice of mechanical trimming does not allow young hedgerow saplings to reach maturity.

Of the 1756 trees, ash was by far the most common, with 60% of the total, followed by sycamore (14.6%), oaks (11.6%), wych elm (6.5%), beech (3.2%), English elm (2.0%) and others (2.1%).

Shrub Species Composition

Following Pollard, Hooper and Moore (1974) a 27 metre (30 yard) sample length of continuous hedge was taken as the basic unit for recording shrub species.

A total of three thousand such sample lengths was selected in sixty six kilometre squares of the national grid, between thirty five and fifty five lengths being chosen at random within (and occasionally just outside) each square. (Squares were selected semi-randomly so as to give adequate coverage of all parts of the study area below 250m. Positions of the squares are shown in Fig. 1).

In each sample the shrub species which formed the main structure of the hedge (the hedge 'core') were recorded. Species occupying over 40% of the sample-length were recorded as 'dominant'.

A total of thirty five species was recorded {all the roses being treated as one species}. These are listed in Table 1 in order of their percentage occurrence in the 3,000 samples. Thus hawthorn was found in 99.3% of samples, elder in 13.8% and so on. These figures are, of course, related to the length of hedge sampled.

As regards dominance, hawthorn was dominant in 94% of samples. Blackthorn, with the second highest number of dominant records, was so in only 1.1% of cases, followed by hazel (0.7%), holly and elder (0.6%) and ash (0.5%).

A further fourteen species, found as shrubs in hedges outside sample squares on one or two occasions, are also listed in Table 1.

Species Distribution

As expected, a number of shrubs common in hedges in parts of southern England - such as buckthorn (*Rhamnus catharticus*), wayfaring tree (*Viburnum lantana*), spindle and dogwood - are rare or non-existent in Durham, and others - such as maple, privet and English elm - are much less common than in the south. Bird cherry, by contrast, is a distinctly northern species.

Within the study area, only for holly, rowan and maple could significant regional differences in species distribution be demonstrated; Figs 1 and 2 show their distribution. Fig 1 shows the percentage occurrence of holly in the sample-lengths recorded in each of the sixty six sample squares. Fig 2 shows km squares (including some outside sample squares) where rowan or maple were recorded in hedges. Maple is more common in the south of the county, reflecting its national distribution, mid-Durham being its northern natural limit. Holly and rowan are more common in the middle, probably reflecting their relative dislike of the magnesian limestone soils of the east.

Further studies relating shrub species distribution to surface geology revealed few significant differences. Blackthorn was found to be more abundant on magnesian limestone and boulder clay than on coal measures and sand and gravels, and ash was more abundant on magnesian limestone than on coal measures. These differences in abundance were small but significant. For the most part: however, surface geology appeared to play little part in the distribution of hedgerow shrub species.

Species Counts

The number of shrub species found within the three thousand sample lengths varied from one to seven, with a mean of 1.75. 50.3% of samples had only one species

(this being hawthorn in 99.9% of cases). 31% had two species, 13.7% had three, 3.7% had four, 1% had five, 0.2% had six, and only 0.1% of samples contained seven species. Thus hedges in Durham are typically species-poor, compared with those in most parts of southern and western England.

Within Durham there was no obvious pattern of distribution of hedges with different species counts. Rich hedges, taken as having five or more species per sample length, were found in most parts of the county, with no obvious regional or geological bias. However, such rich hedges did occur slightly more often along roads and tracks than in fields.

It is interesting to note that hazel was, after hawthorn, the most common species in rich hedges. 66% of such hedge samples contained hazel, often in quite large amounts. Blackthorn was also common, occurring in 58% of cases. By contrast, elder, the second most common species overall, occurred in only 18% of rich hedge samples. Such discrepancies probably relate to differences in past planting practices and relative colonising abilities.

Hedgerow Herbs and Climbers

As the recording of hedgerow herbs was much more time consuming than shrubs, fewer samples were taken. Ten 27m. sample-lengths were randomly chosen in sixty two of the sixty six previously surveyed kilometre squares, giving a total of 620 samples. In each sample length herbaceous plants and climbers which were growing within, under and immediately adjacent to the hedge were recorded, from one side only. Relative abundance of species was not estimated. Data was also collected on hedge height, width, management, presence of bank and ditch (see above), aspect, surface geology, and adjacent land use. Sites were normally visited twice, in early and late summer.

A total of 190 species was recorded, certain critical groups such as *Rosa*, *Rubus fruticosus* agg., and *Hieracium*, being treated as one species. Table 2 lists the species in order of percentage frequency of occurrence in the 620 samples.

Discussion

As expected the great majority of species recorded were common, being found in habitats such as woodland, wasteland, grassland, and roadside verges as well as in hedgerows. Within Durham few regional differences could be demonstrated. Foxglove (*Digitalis purpurea*) was more common in the centre and west, presumably due to its preference for acid soils. Wood cranesbill (*Geranium sylvaticum*), wood horsetail (*Equisetum sylvaticum*) and large campanula (*Campanula latifolia*) showed westerly preferences, and white bryony (*Bryonia dioica*) a southerly preference, but numbers of records of these were too low to draw definite conclusions. However, it seems reasonable to assume that, on the whole, the distribution of herbaceous species in hedgerows is similar to their distribution in all types of habitat over the whole county. All the common species were widely distributed and did not appear to show preferences for anyone type of surface geology.

The number of species recorded per sample length ranged from five to thirty two with a mean of 13.6. The only factor which had any significant effect on the species count was that of adjacent land use. Hedgerows along roads and tracks had a mean of 14.4, along meadows 14.5 and along arable fields 10.7 species. Also, of the fifty six hedgerows containing twenty or more species, twenty five were along roads or tracks, twenty seven along meadows and only four along arable fields. Thus hedgerows along arable fields usually contain fewer herbaceous species, possibly as a result of the use of weedkillers and fertilisers.

Historical Studies

Hedges were originally created to make a boundary, to provide produce such as forage for stock, fruits, sticks etc., or to provide a stockproof barrier. Many hedges dating from mediaeval times are still in existence today, especially in south and west England. Such hedges usually follow an irregular line and have a mixed shrub species content, often with a lot of hazel. Later hedges, especially those of the main enclosure period of the 17th to 19th century, are usually straight and dominated by hawthorn.

In Durham the great majority of the hedges in existence today were planted between the late 16th and early 19th centuries when the village open fields and large areas of common land were subdivided. In many cases details of such enclosure (held by the County Record Office or Durham University Paleography Dept.) are still in existence, often with accompanying maps showing positions of the new field boundaries. Unfortunately there are no reliable maps or detailed documents of field boundaries in Durham prior to 1600, so the existence of earlier hedges can only be inferred from field evidence. Many earlier boundaries in the county are known - of fields, estates, and of parishes, which, if original, can be anything from 600 to 1200 years old - but the ages of the hedges along these are not necessarily the same as the boundaries themselves.

Hedge Dating

The by now well known hedge dating theory of Hooper provides a possible method of estimating the age of hedges in the field. The theory states that the numbers of shrub and tree species in hedges increases with age such that a 30 yard (27m.) stretch of continuous hedge will contain on average about one species for each hundred years of life. Such increases with age are attributed partly to older hedges having more species to start with than recent ones, and partly to subsequent invasion by new species - the older the hedge the more species will have invaded it. The formula appears to work in parts of the country but in some areas - e.g. Shropshire and the Vale of Wrington near Bristol - it does not hold - good.

In order to test the theory it is necessary to locate hedges of known age, from documentary evidence. The earliest located in Durham were the 1636 enclosure hedges at Sedgfield and at Shadforth, and the latest (apart from very recent ones) the 1809 enclosure hedges at Framwellgate Moor. Table 3 gives the results of field surveys carried out on such hedges of known age, and also along selected earlier boundaries.

While the hedges of 1693 and later had mean species counts only slightly below those expected, those of 1636 had counts well below the expected figure of 3.4. Thus the hedge dating formula does not appear to be a reliable guide to hedge age in Durham.

In most cases hedges along earlier boundaries also had low counts. This could either mean that such hedges were planted (or replanted) relatively recently, or that they are original and have not been colonised by the expected number of species.

The small number of rich hedges with five or more species per 27m. could not be dated from documentary evidence. Most of these were along roads or tracks of probable mediaeval origin; a few were along parish or township boundaries. As previously mentioned, most of these rich hedges contained hazel.

Altogether twenty five shrub species were recorded in the 320 samples of parish boundary hedges, compared with fourteen in the 332 samples of 1636 and later hedges. Thus although there is slight circumstantial evidence that rich hedges are relatively old, the converse - i.e. that all old hedges are species rich - is not necessarily true. Unless further detailed documentary evidence comes to light (which seems un-likely) the relationship between shrub species count and hedge age in Durham is likely to remain a matter of conjecture,

Assart Hedges

The presence of slow-spreading woodland herbs such as dogs mercury (*Mercurialis perennis*), wood anemone (*Anemone nemorosa*), primrose (*Primula vulgaris*) and blue-bell (*Endymion non-scriptus*) in large amounts in hedgerows, together with woodland shrubs such as hazel, is usually an indication that the hedge was created during piece-meal clearance (assarting) of the original, or primary, woodland cover. Such woodland relic, or assart, hedges are often found in parts of southern England, but there appear to be few in Durham. Very few of the 620 sample lengths in which herbs were recorded contained primary woodland herbs. Primrose and wood anemone were not recorded at all, and dogs mercury, much the most common such herb, was present in only 4.7% of cases, usually only as small isolated patches. Such relative absence of woodland relic hedges lends support to the generally held view that most of Durham's primary woodland had already been cleared well before hedges began to be planted.

It is interesting to note that the hedges which contained dog's mercury were concentrated along the middle and upper valleys of the rivers Derwent, Tees, and especially Wear; (see Fig 3) possibly there was some assarting of woodland in these areas in mediaeval or later times.

References

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FORESTRY COMMISSION. 1955. Report of the Committee on hedgerow and farm timber (Merthyr report) H.M.S.O.

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TABLE 1

The relative occurrence of shrub species recorded in 3000 twenty seven metre hedge samples.

Species	Percentage occurrence out of 3000
<i>Crataegus monogyna</i>	99.3
<i>Sambucus nigra</i>	13.8
<i>Fraxinus excelsior</i>	12.2
<i>Prunus spinosa</i>	10.9
<i>Rosa</i> spp. *†	9.4
<i>Ilex aquifolium</i>	6.4
<i>Corylus avellana</i>	5.1
<i>Acer pseudoplatanus</i>	4.5
<i>Ulmus glabra</i>	3.3
<i>Prunus domestica</i>	1.5
<i>Ulex europaeus</i>	1.3
<i>Malus sylvestris</i>	1.0
<i>Quercus</i> spp. *	1.0
<i>Sorbus aucuparia</i>	0.9
<i>Ribes uva-crispa</i>	0.7
<i>Viburnum opulus</i>	0.7
<i>Salix cinerea</i>	0.6
<i>Prunus pedus</i>	0.4
<i>Acer cernpestre</i>	0.4
<i>Ulmus procera</i>	0.4
<i>Ligustrum vulgare</i>	0.3
<i>Prunus avium</i>	0.2
<i>Salix fragilis</i>	0.2
<i>Fagus sylvatica</i>	0.2
<i>Betula pendula</i>	0.2
<i>Prunus cerasifera</i>	0.1
<i>Alnus glutinosa</i>	0.1
<i>Populus tremula</i>	0.1
<i>Salix caprea</i>	0.1
<i>Symphoricarpos rivularis</i>	0.1
<i>Cornus sanguinea</i>	0.1
<i>Ligustrum ovalifolium</i>	0.1
<i>Prunus cerasus</i>	0.1
<i>Sorbus aria</i>	0.1

* Combined due to problems with identification.

†Roses, brambles and other woody species not forming part of the actual hedge core are listed in Table 2.

A small number of *Prunus* and *Ulmus* spp. were not identified to species level.

The following species were found as shrubs, on one or two occasions only, in hedges outside sample squares:-
Aesculus hippocastanum. *Berberis vulgaris*. *Betula pubescens*. *Carpinus betulus*. *Chamaecyparis lawsoniana*. *Daphne laureola*. *Euonymus europaeus*. *Lycium barbarum*. *Populus canescens*.
Rhododendron ponticum. *Ribes senuquineum*. *Salix aurita*. *Sarothamnus scooerlus*. and *Syringa vulgaris*.

TABLE 2
 Hedgerow herbs and climbers in 620 twenty seven metre sample-lengths

Species	% occurrence out of 620	Species	% occurrence out of 620
<i>Arrhenatherum elstius</i>	84.5	<i>Centaurea nigra</i>	10.2
<i>Galium aparine</i>	68.4	<i>Poa annua</i>	9.0
<i>Rubus fruticosus</i>	67.3	<i>Trifolium repens</i>	8.5
<i>Urtica dioica</i>	59.0	<i>Tortilis japonica</i>	8.4
<i>Rosa spp</i>	54.2	<i>Pteridium aquilinum</i>	8.2
<i>Heracleum sphondylium</i>	51.8	<i>Agrostis stolonifera</i>	8.2
<i>Dactylis glomerata</i>	46.6	<i>Digitalis purpurea</i>	8.1
<i>Cirsium arvense</i>	45.6	<i>Plantago lanceolata</i>	8.1
<i>Anthriscus sylvestris</i>	39.7	<i>Lapsana communis</i>	7.4
<i>Poa trivialis</i>	39.0	<i>Lonicera periclymenum</i>	6.9
<i>Holcus mollis</i>	36.9	<i>Veronica chamaedrys</i>	6.9
<i>Agropyron repens</i>	35.8	<i>Viola riviniana</i>	6.8
<i>Stachys sylvatica</i>	27.1	<i>Geranium robertianum</i>	6.5
<i>Stellaria media</i>	25.8	<i>Lolium perenne</i>	6.1
<i>Hedera helix</i>	21.8	<i>Rumex obtusifolius</i>	6.1
<i>Ranunculus repens</i>	20.5	<i>Filipendula ulmaria</i>	6.0
<i>Stellaria holostea</i>	20.5	<i>Bellis perennis</i>	5.8
<i>Festuca rubra</i>	20.3	<i>Cynosurus cristetus</i>	5.5
<i>Vicia sepium</i>	17.4	<i>Rumex acetosella</i>	5.0
<i>Taraxacum officinale</i>	17.1	<i>Deschampsia caespitosa</i>	4.8
<i>Vicia cracca</i>	15.2	<i>Campanula rotundifolia</i>	4.7
<i>Lamium album</i>	15.0	<i>Mercurialis perennis</i>	4.7
<i>Cruciata laevipes</i>	14.5	<i>Trifolium pratense</i>	4.4
<i>Cerastium botosteoides</i>	14.2	<i>Trisetum flavescens</i>	4.0
<i>Lethrus pratensis</i>	13.5	<i>Silene dioica</i>	4.0
<i>Cirsium vulgare</i>	13.4	<i>Ranunculus ficaria</i>	3.7
<i>Epilobium angustifolium</i>	13.1	<i>Alliaria petiolaris</i>	3.5
<i>Poa pretensis</i>	12.7	<i>Rumex crispus</i>	3.4
<i>Alopecurus pratensis</i>	12.6	<i>Solanum dulcamara</i>	3.2
<i>Rumex acetosa</i>	12.6	<i>Phleum pratense</i>	3.1
<i>Agrostis tenuis</i>	12.5	<i>Stellaria graminea</i>	3.1
<i>Achillea millefolium</i>	12.3	<i>Bromus sterilis</i>	2.9
<i>Chaerophyllum temulentum</i>	12.3	<i>Glechome hederacea</i>	2.7
<i>Geum urbanum</i>	11.8	<i>Epilobium montanum</i>	2.7
<i>Hotus lanatus</i>	11.6	<i>Geranium pratense</i>	2.7
<i>Potentilla reptans</i>	10.8	<i>Festuca ovina</i>	2.7
<i>Equisetum arvense</i>	10.8	<i>Artemisia vulgaris</i>	2.7

<i>Ranunculus acris</i>	2.6	<i>Sonchus oleraceus</i>	0.6
<i>Rumex sanguineus</i>	2.6	<i>Sinapis arvensis</i>	0.6
<i>Fragaria vesca</i>	2.6	<i>Juncus effusus</i>	0.6
<i>Hypochaeris radicata</i>	2.4	<i>Bryonia dioica</i>	0.6
<i>Cirsium palustre</i>	2.4	<i>Oxalis acetosella</i>	0.6
<i>Brachypodium sylvaticum</i>	2.3	<i>Convolvulus arvensis</i>	0.6
<i>Conopodium majus</i>	2.3	<i>Tamus communis</i>	0.5
<i>Potentilla sterilis</i>	2.3	<i>Bromus mollis</i>	0.5
<i>Silene vulgaris</i>	2.3	<i>Rubus caesius</i>	0.5
<i>Galeopsis tetrahit</i>	2.1	<i>Festuca pratensis</i>	0.5
<i>Tussilago farfara</i>	2.1	<i>Potentilla erecta</i>	0.5
<i>Silene alba</i>	1.9	<i>Galium verum</i>	0.5
<i>Arum maculatum</i>	1.8	<i>Rhinanthus minor</i>	0.5
<i>Knautia arvensis</i>	1.8	<i>Veronica officinalis</i>	0.5
<i>Senecio jacobaea</i>	1.6	<i>Veronica serpyllifolia</i>	0.5
<i>Arctium minus</i>	1.6	<i>Centaurea scabiosa</i>	0.5
<i>Betonica officinalis</i>	1.6	<i>Carduus acanthoides</i>	0.5
<i>Papaver rhoas</i>	1.6	<i>Senecio vulgaris</i>	0.5
<i>Prunella vulgaris</i>	1.6	<i>Hordeum murinum</i>	0.3
<i>Calystegia silvatica</i>	1.6	<i>Svnrphytum x uplandicum</i>	0.3
<i>Dryopteris felix-mas</i>	1.5	<i>Sanguisorba minor</i>	0.3
<i>Galium saxatile</i>	1.5	<i>Matricaria matricarioides</i>	0.3
<i>Lotus uliginosus</i>	1.5	<i>Viola arvensis</i>	0.3
<i>Lathyrus montanus</i>	1.5	<i>Luzula csmpestris</i>	0.3
<i>Tripleurospermum maritimum</i>	1.5	<i>Plantago major</i>	0.3
<i>Lamium purpureum</i>	1.5	<i>Galium odoratum</i>	0.3
<i>Anthoxanthum odoratum</i>	1.5	<i>Angelica sylvestris</i>	0.3
<i>Geranium sylvaticum</i>	1.3	<i>Crepis capillaris</i>	0.3
<i>Lotus corniculatus</i>	1.3	<i>Leontodon hispidus</i>	0.3
<i>Sonchus asper</i>	1.3	<i>Saxifraga granulata</i>	0.3
<i>Aegopodium podagraria</i>	1.1	<i>Chrysanthemum leucanthemum</i>	0.3
<i>Epilobium hirsutum</i>	1.1	<i>Chrysanthemum parthenium</i>	0.3
<i>Hieracium spp.</i>	1.1	<i>Conium maculatum</i>	0.3
<i>Primula veris</i>	1.0	<i>Myrrhis odorata</i>	0.3
<i>Dryopteris dilatata</i>	1.0	<i>Ajuga reptans</i>	0.3
<i>Medicago lupulina</i>	1.0	<i>Rubus idaeus</i>	0.3
<i>Ballota nigra</i>	0.8	<i>Valeriana officinalis</i>	0.3
<i>Polygonum convolvulus</i>	0.8	<i>Trifolium dubium</i>	0.3
<i>Chenopodium album</i>	0.8	<i>Festuca arundinacea</i>	0.2
<i>Capsella bursa-pastoris</i>	0.8	<i>Festuca gigantea</i>	0.2
<i>Equisetum sylvaticum</i>	0.8	<i>Phalaris arundinacea</i>	0.2
<i>Campanula latifolia</i>	0.8	<i>Calystegia sepium</i>	0.2
<i>Juncus subuliflorus</i>	0.8	<i>Brizamedia</i>	0.2
<i>Sonchus oleraceus</i>	0.8	<i>Bromus erectus</i>	0.2
<i>Myosotis sylvatica</i>	0.8	<i>Trifolium medium</i>	0.2
<i>Scrophularia nodosa</i>	0.8	<i>Papaver dubium</i>	0.2
<i>Sanguisorba officinalis</i>	0.8	<i>Luzula sylvatica</i>	0.2
<i>Endymion non-scriptus</i>	0.6	<i>Alchemilla glabra</i>	0.2
<i>Ranunculus bulbosus</i>	0.6	<i>Sanicula europea</i>	0.2
<i>Bromus ramosus</i>	0.6	<i>Lunaria annua</i>	0.2
<i>Deschampsia flexuosa</i>	0.6	<i>Orchis mascula</i>	0.2
<i>Sisymbrium officinale</i>	0.6	<i>Dactylorhiza tuchsi</i>	0.2

<i>Teucrium scorodonia</i>	0.2	<i>Polygonum cuspidatum</i>	0.2
<i>Adoxa moschatellina</i>	0.2	<i>Potentilla anserina</i>	0.2
<i>Tragopogon pretensis</i>	0.2	<i>Galium palustre</i>	0.2
<i>Mentha suaveolens</i>	0.2	<i>Succisa pratensis</i>	0.2
<i>Hypericum perforatum</i>	0.2	<i>Clinopodium vulgare</i>	0.2
<i>Anagallis arvensis</i>	0.2	<i>Phleum bertolonii</i>	0.2

Additional species found in hedgerows outside sample sites on one or two occasions

<i>Galium mollugo</i>	<i>Stachys palustris</i>
<i>Leontodon autumnalis</i>	<i>Clematis vitalba</i>
<i>Reseda luteola</i>	<i>Pimpinella saxifraga</i>
<i>Tanacetum vulgare</i>	<i>Euphrasia nemorosa</i> agg.
<i>Malva sylvestris</i>	<i>Anchusa arvensis</i>
<i>Polygonum aviculare</i>	<i>Hordeum vulgare</i>
<i>Carex flacca</i>	<i>Avena sativa</i>
<i>Anemone nemorosa</i>	<i>Humulus lupulus</i>
<i>Linaria vulgaris</i>	<i>Fumaria officinalis</i>

TABLE 3
The number of shrub and tree species in 27m stretches of hedges along boundaries of different ages

Place	Type of Boundary	Date	No. of 27m samples	Species count - range	Mean species count
Framwellgate Moor	Enclosure	1809	116	1-4	1.4
Chester Moor	Enclosure	1800	51	1-3	1.3
Bolam	Enclosure	1786	28	1-3	1.5
Bishop Middleham	Enclosure	1693	20	1-4	2.6
Sedqefield	Enclosure	1636	57	1-4	1.6
Shadforth	Enclosure	1636	60	1-4	1.5
*Bvers Green	Brancepeth Estate	Pre-1600	11	2-4	2.8
*N.W. of Durham City	Various Estates	12th-14th century	58	1-3	1.4
*Bvers Green E.	Toft	13th c	18	2-5	3.1
* Bvers Green W.	Toft	13th c	13	1-3	1.7
* All over Durham	Ecclesiastical Parish	8th-14th c	320	1-6	2.0
*Various	Township	8th-14th c	30	1-5	2.3

* Hedge ages unknown



Fig. 3
Dog's mercury in hedgerows (all records). Each symbol represents a km. square in which dog's mercury was found in one or more hedgerows.

**NOTES ON A COLLECTION OF MARINE FISH AT THE DOVE MARINE
LABORATORY, CULLERCOATS
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Abstract

Examination of preserved fish specimens at the Dove Marine Laboratory, Cullercoats, provided a list of 54 species, many of which are relatively uncommon in north east waters. The specimens have been collected over a number of years, but unfortunately do not have precise location data. However, they do provide a useful insight into the local marine fish fauna. A complete listing is given, together with comments on the rarer species.

Introduction

As part of a long term project to revise the list of fishes for the Coast of Northumberland and Durham, the preserved fish specimens in the Dove Marine Laboratory were examined with the permission of that institution.

The collection has mixed origins and it is unfortunate that precise locality data are not available. The type (i.e. voucher) collections of marine fish, compiled in the 1940s by Dr. William Stephenson, Naturalist at the Dove Marine Laboratory, and referred to by him in a manuscript fish fauna list, were discarded in the mid-1960s. The collection to which this note refers survived however, and is principally a result of enquiries and donations by local fishermen over the last thirty years which continues to be added to regularly.

Two sources have provided the bulk of the collection - the fishermen of Blyth and North Shields. The boats fishing out of Blyth work exclusively in local waters, but some of the vessels in North Shields work the more distant fishing grounds, and are probably responsible for some of the deeper water, northerly distributed species present in the list. Local coble fishermen, the research vessels of the Laboratory, Alexander Meek and Bernicia, and local anglers, have also contributed to the collection.

In spite of lack of exact data and the somewhat haphazard nature in which specimens have been acquired, the collection is considered to be representative of the local fish fauna.

Duplicate specimens from the collection have been donated to Sunderland Museum, and accession numbers (preceded by TWCMS = Tyne and Wear County Museums Service) for these are given in the species list.

Species List

The species are listed according to Wheeler (1969).

MARSIPOBRANCHII

HYPEROTRETA

Myxinidae *Myxine glutinosa* Hagfish TWCMS: E2862

SELACHII

PLEUROTREMATA

Squaloideae *Squalus acanthias* Spurdog TWCMS: E1382

HYPOTREMATA

Dasyatidae *Dasyatis pastinaca* Sting Ray TWCMS: E2861

CHIMAERA Chimaeridae *Chimaera monstrosa* Rat fish TWCMS: E 1385

PISCES

ISOSPONDYLI

Clupeidae *Alosa fallax* Twaite shad TWCMS: E1378

Salmonidae *Clupea harengus* Herring
Salmo salar Salmon
Salmo trutta Trout TWCMS: E2864

APODES

Anguillidae *Anguilla anguilla* Eel

SYNENTOGNATHI

Belonidae *Belone bellone* Garfish TWCMS: E 1381

SOLENICHTHYES

Syngnathidae

ANACANTHINI Gadidae *Syngnathus acus* Greater Pipefish TWCMS: E1383

Merlangius merlangus Whiting

Trisopterus luscus Bib TWCMS: E2865

Trisopterus minutus Poor Cod TWCMS: E2866

Pollachius virens Coalfish

Gadus morhua Cod

Melanogrammus aeglefinus Haddock TWCMS: E1398

Mertucctus merluccius Hake TWCMS: E 1397

Molva molva Ling TWCMS: E1390

Raniceps raninus Tadpole fish TWCMS: E1380

Gaidropsarus vulgaris 3-bearded rockling TWCMS: E1377

Ciliata mustelo 5-bearded rockling TWCMS: E1395

Zeus faber Dory TWCMS: E1387

Dicentrarchus labrax Bass TWCMS: E2855

ZEOMORPHI

Zeidae

PERCOMORPHI

Serranidae

Carangidae	<i>Trachurus trachurus</i>	Scad	TWCMS: E2852
Bramidae	<i>Bramabrama</i>	Ray's Bream	
Mullidae	<i>Mullus surmuletus</i>	Red Mullet	
Sparidae	<i>Pagellus bogaraveo</i>	Red Sea Bream	TWCMS: E 1397
Cepolidae	<i>Cepola rubescens</i>	Red band fish	TWCMS: E1400
Labridae	<i>Labrus bergylta</i>	Ballan Wrasse	TWCMS: E1393
Ammodytidae	<i>Ammodytes tobianus</i>	Sand eel	TWCMS: E2863
Trachinidae	<i>Echiichthys vipera</i>	Lesser Weever	
	<i>Trachinus draco</i>	Greater Weever	TWCMS: E1396
Scombridae	<i>Sarda sarda</i>	Bonito	TWCMS: E1399
Callionymidae	<i>Callionymus lyra</i>	Dragonet	
Blenniidae	<i>Blennius gattorugine</i>	Tompot Blenny	TWCMS: E 1384
	<i>Blennius pholis</i>	Shanny	TWCMS: E2872
Zoarcidae	<i>Zoarces viviparus</i>	Eelpout	
	<i>Lycodes esmarkii</i>	Esmark's Eelpout	TWCMS: E2870
Anarhichadidae	<i>Anarhichas lupus</i>	Catfish	TWCMS:E1386
Centrolophidae	<i>Centrolophus niger</i>	Blackfish	TWCMS: E 1391
SCLEROPAREI			
Triglidae	<i>Eutrigla gurnardus</i>	Grey Gurnard	TWCMS: E2851
Agonidae	<i>Agonus cataphractus</i>	Pogge	
Cyclopteridae	<i>Cyclopterus lumpus</i>	Lumpsucker	
HETEROSOMATA			
Bothidae	<i>Scophthalmus maximus</i>	Turbot	TWCMS E2867: E2868
	<i>Scophthalmus rhombus</i>	Brill	
	<i>Zeugopterus punctatus</i>	Topknot	TWCMS: E1392
	<i>Lepidorhombus whiffiagonis</i>	Megrim	TWCMS: E1394
	Pleuronectidae	Dab	
	<i>Limanda limanda</i>		
	<i>Platichthys flesus</i>	Flounder	
	<i>Pleuronectes platessa</i>	Plaice	
	<i>Microstomus kitt</i>	Lemon Sole	TWCMS E1388 . E1389
	<i>Glyptocephalus cynoglossus</i>	Witch	TWCMS: E2853
PECTOGNATHI			
Molidae	<i>Mola mola</i>	Sunfish	
PEDICULATI			
Lophiidae	<i>Lophius piscatorius</i>	Angler fish	

Discussion

A number of species are of particular interest because of their rare appearance in local waters:

Stingray *Dasyatis pastinaca* (Linnaeus, 1758)

Only one specimen recorded for last century - 6 miles off Cresswell, 1877 (Meek, 1904). Regarded as a rare straggler by Meek (1905), but Wheeler (1978) notes that this species occurs in the shallow waters of the North Sea, most frequently in summer and autumn.

Rat fish *Chimaera monstrosa* (Linnaeus, 1758)

Howse (1894) records 4 specimens that were taken locally. No records are available since that time, until the present specimen. Rare inshore on this coast, but appears to be fairly common on the deep-water trawling grounds (Wheeler, 1978).

Twaite Shad *Alosa fallax* (Lacepede, 1803)

Approaches the coast or ascends rivers periodically from deep water to spawn (Howse, 1890). Captured in trawl and herring nets occasionally (Meek, 1904). Rare (Meek, 1905). Wheeler (1969) notes that this species is uncommon and he mentions (1978) that in many rivers pollution of the lower reaches have denied access for the fish, and it is now rare even in areas where once it was very common.

Hake *Merluccius merluccius* (Linnaeus, 1758)

Early records of this species were of rare stragglers. The development of trawling in the North East waters resulted in many more specimens being caught, (Howse, 1890). Several recorded by Stephenson (1949) from 1946-47 although much rarer in 1948. Most recent record apart from present specimen is held at Sunderland Museum (1979). Scarce.

Bass *Dicentrarchus labrax* (Linnaeus, 1758)

First recorded on the North East coast at Cresswell, 1769 (Howse, 1890). One of the less common fishes taken on the coast of Berwickshire (Johnson - 1838). Howse (1894) notes only two specimens, each taken in the River Tyne. Apparently more common this century: over a dozen recorded by Stephenson (1949) between 1902 and 1938. Subsequently specimens occasionally captured by anglers at various points on the North East coast - beaches at North Blyth, Druridge Bay, Alnmouth and Lynemouth. Specimen taken from River Blyth estuary in Sunderland Museum. Relatively common in localised areas, particularly during summer months.

Ray's Bream *Brama brama* (Bonnaterre, 1788)

First recorded by Willughby, 1681 (Yarrell, 1836). Frequent sightings at Redcar around 1850s (Howse, 1890). Considered rare by Meek (1905) until 1926-27 when commonly stranded in Northumberland (and what is now Tyne and Wear); then relatively frequent records until 1936 (Stephenson, 1949). Evidence of another influx in 1952, and subsequently between 1967 and 1976 (Blacker, 1976).

7 records held at Sunderland Museum for November/December 1978. Numbers vary considerably from year to year, but always occur late October/November/early December.

Red Sea Bream *Pagellus bogaraveo* (Brunnich, 1768)

First recorded in 1836 by H. Hewitson (Howse, 1890). Occasionally seen at Berwick (Johnson, 1938). Considered as uncommon by Howse (1890). Wheeler (1978) notes that stragglers may penetrate into the North Sea by seasonal movements.

Rare.

Red Band-fish *Cepola rubescens* (Linnaeus, 1766)

One previous sighting by Johnson (Day, 1880-84) and regarded as rare in the North Sea by Wheeler (1978).

Bonito *Sarda sarda* (Bloch, 1793)

Rare. Apart from present specimen only 2 records exist for the North East coast. One of these was taken off Sunderland in 1870 (Howse, 1890), and the other was caught in salmon nets near Holy Island in 1925 (Stephenson, 1949).

Tornpot Blenny *Blennius gattorugine* (Linnaeus, 1758)

The record cited in Howse (1890) is doubtful according to Stephenson (1949).

Otherwise there are no records of this species on the North East coast until the present specimen. Rare.

Esmark's Eelpout *Lycodes esmarkii* (Collet, 1875)

No specific records occur for this species for the North East coast. Wheeler (1969) notes that it is confined to the colder, northern parts of the North Sea, and although occasionally taken by trawlers in the deeper grounds, are 'by no means common'. It is probable that this specimen was brought into North Shields by deep water trawler from outside British waters.

Black fish *Centrolophus niger* (Gmelin, 1789)

Early records of this fish were mostly of stranded specimens. Regarded as scarce by Howse (1894). No local records this century until recently, i.e. the present record, and two other specimens taken approximately 10 miles off Blyth, and handed in to the Dove Laboratory in February 1980.

Megrim *Lepidorhombus whiffiagonis* (Walbaum, 1792)

Johnson (1838) notes this fish as rare, and Howse (1890) records only one local specimen. Rare, (Meek, 1905). Several caught by the crew of "Golden Times" between 1939 and 1946 (Stephenson, 1949). Wheeler (1969) notes that this species is rarely found close inshore but occurs commonly in depths of 50-300m.

Sunfish *Mola mola* (Linnaeus, 1758)

Seven sightings recorded for the North East coast between 1835 and 1889 (Howse, 1890). Meek (1905) mentioned that 'an occasional straggler reaches the Coast'. Further occasional records (1909-1949) are noted by Stephenson (1949). Considered as 'extremely rare in the North Sea' by Wheeler (1969). Two specimens caught locally in 1973 (Turner, 1974). Rare.

Acknowledgements

Our thanks are due to the staff of the Dove Marine Laboratory: Dr. R.L. Foster- Smith first drew attention to the fish specimens. Dr. J.B. Buchanan and Dr. F. Evans have been most helpful in allowing access both to the specimens and to various documents concerning fish records. We are also grateful for their donation of a number of specimens to Sunderland Museum. We would also like to thank Mr. A.M. Tynan, of the Hancock Museum for the loan of an annotated version of Richard Howse's 'Catalogue', and to Mr. A. Wheeler of the British Museum (Natural History) for his advice and encouragement.

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**THE CONSERVATION OF THE SEMI-NATURAL VEGETATION OF THE
MAGNESIAN LIMESTONE2. TYNE AND WEAR**

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INTRODUCTION

The first paper in this series which appeared in the October 1977 issue of the *Vasculum* dealt with the vegetation of the magnesian limestone escarpment in County Durham. The area covered ran from Newton Aycliffe in the South through the villages of Cornforth, Cassop and Sherburn to Pitlington in the North. This paper continues the description of the vegetation of the escarpment northwards and eastwards across the administrative boundary between the counties of Tyne and Wear and Durham.

The semi-natural grasslands of this area whilst smaller and much more restricted than those of County Durham form the most significant vegetation type. Together with the woodlands, wetlands and other habitats some of which, including disused quarries, hedgerows and roadside verges, have developed in response to man's intervention in the landscape, they make up a natural resource of considerable significance (in the County).

As in the previous paper an attempt is made here to identify some of the problems associated with the conservation of the more important sites. These sites survive in a landscape which lies adjacent to a large conurbation and which has been extensively scarred by industrial development. As with the escarpment in Durham most of the habitats are present on ground too steep to plough for agriculture or to use for industrial development or housing.

THE GRASSLANDS

In the previous paper stress was placed on the value of semi-natural grassland for nature conservation arising from its wealth of plant and animal species. In particular the presence of both northern and southern elements of the flora of the calcareous grasslands of Britain made the sites of special interest. In the case of Tyne and Wear the northern element is largely absent and although *Sesleria caerulea*, one of the characteristically northern species, is still a major component of much of the vegetation, *Trollius europaeus*, *Primula farinosa*, *Epipactis atrorubens* and *Antennaria dioica* have disappeared. The presence of the predominantly southern *Bromus erectus*, *Brachypodium pinnatum* and *Linum anglicum*, together with several other species near their northern limit, on Tunstall Hills and in the vicinity of Marsden, may be due to the relatively close proximity of the sea and its ameliorating influence on the climate.

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The individual sites which support semi-natural grassland include three which are designated as Sites of Special Scientific Interest (SSSI) under Section 23 of the National Parks and Access to the Countryside Act (1949). These are:

Herrington Hill
Houghton Scarp
and Tunstall Hills.

Pittington Hill (partly in County Durham) has recently been deleted as a biological SSSI as a consequence of the reduction in scientific interest caused by overgrazing, eutrophication and recreational pressures. The value of Houghton Scarp has similarly been reduced with additional loss of interest caused by quarrying and scrub encroachment such that it too may have to be deleted from the schedule of sites notified to the Local Authority.

Tunstall Hills (The Maiden Paps) is probably the most important grassland site in Tyne and Wear with semi-natural vegetation dominated by the predominantly southern *Bromus erectus*. It is significant that there is a population of *Linum anglicum* near its absolute northern limit growing together with *Sesleria caerulea*, particularly in relation to the link between the northern and southern elements of the flora of the magnesian limestone grassland. Coupled with this the presence of many typical limestone plants including *Helianthemum chamaecistus* and the local *Coeloglossum viride* and *Thalictrum minus* growing in juxtaposition with the mainly maritime *Plantago maritima* further enhance the interest of the area.

The site is an important local recreational area affording good views over Sunderland to the sea and this, together with its use by motor cyclists is threatening the survival of the easily eroded vegetation on some of the more accessible parts of the site. However, the erection of a barrier, to deter cyclists, by the Local Authority in 1975, proved successful and the vegetation very quickly recovered. In the long term, survival of the natural history interest will depend on the development of the site as a Local Nature Reserve under Section 21 of the National Parks and Access to the Countryside Act 1949 (already approved in principle) with facilities for interpretation associated with both educational and casual recreational use. In addition it is important that an agreed management policy is put into effect at the earliest opportunity. Included in the Proposed Local Nature Reserve are a disused railway line, several old quarries and an area of regenerating woodland (see below). Botanically the railway cutting, adjacent to the partly reclaimed Ryhope Colliery site, is the most important area. Here on the steep slopes and limestone outcrops many typical limestone plants occur including notably *Hypericum montanum* and *Thalictrum minus*. Scrub encroachment, which on an adjacent slope has led to the development of secondary ash woodland and motor cycle scrambling pose a threat to the botanical interest of this area.

Harton Downhill, although some 8 miles further north in South Shields, and surrounded on three sides by housing, is considered alongside the discussion of Tunstall Hills because it too supports a vegetation which includes *Bromus erectus* and *Linum anglicum* which is currently at its northern limit in Britain here, appearing in a site

where it was thought to be extinct. The threat to the plant community is almost exclusively from recreational use, although with the very close proximity of housing there is no realistic way that it can be controlled and it is hoped that local interest in the importance of the plants may aid its conservation.

Herrington Hill and Hastings Hill, the former notified as a Site of Special Scientific Interest and the latter proposed for scheduling in the near future, are both grazed. At Herrington Hill the steeper slopes support communities which include *Helianthemum chamaecistus*, *Coeloglossom viride* and *Listera ovata* in addition to many other typical limestone species. Hastings Hill is smaller but carries an equally varied flora and has, notably, a small population of *Anacamptis pyramidalis*, the only known colony in Tyne and Wear. This site was recently put in jeopardy by a proposal to build a large housing estate nearby. Happily the proposal was turned down by the Local Authority on a number of counts, one of which was the threat to the proposed Site of Special Scientific Interest.

On the whole the level of grazing is not a major threat to the more important vegetation of either site since this is now largely restricted to the steeper slopes. However, in the case of Herrington Hill, reseeded of some of the more accessible land has taken place and has undoubtedly largely destroyed the interest in those areas.

Penshaw Hill, nearby, was formerly of some importance for semi-natural limestone grassland, supporting a population of *Linum anglicum* (Heslop Harrison and Richardson 1953). However, recreational pressure and occasional burning of the vegetation has reduced its interest and probably resulted in the extinction of *Linum anglicum*. Despite this the site still contains examples of relatively rich grassland with many typical plants including *Sesleria caerulea*.

In addition to the more important areas mentioned above there are several other sites supporting small areas of semi-natural grassland of some value for wildlife conservation. Amongst these there is an interesting flora on the cliff top at Claxheugh Rock (a geological SSSI) and an adjacent railway cutting supports *Sesleria caerulea* and *Thalictrum minus*. There are also a number of unusual species found only very occasionally elsewhere in the North East, including *Parietaria diffusa* and *Blackstonia perfoliata*.

At Marsden the magnesian limestone escarpment, in effect, reaches the sea and the same stratum forms stacks including the well known Marsden Rock. Along the cliff top, at Marsden Hall Quarry and adjacent to the golf course there are several small areas of limestone which support interesting plant communities.

At Marsden Hall Quarry species-rich *Sesleria caerulea* grassland with many typical limestone plants including *Briza media*, *Helianthemum chamaecistus* and *Thymus drucei* survives on steep slopes along the edge of a footpath. Land adjacent to the nearby golf course has a more maritime grassland developed on coal waste which includes *Armeria maritima* and *Plantago maritima* growing together with the more typical limestone plants, *Anthyllis vulneraria* and *Blackstonia perfoliata*.

Within this area a small limestone outcrop also supports typical *Sesleria caerulea* grassland and in addition to the normal species has *Trifolium striatum*, another plant with a predominantly southern distribution, which is very local in the North East of England.

The cliff top grassland is very restricted in this area because of the close proximity of the road, footpath and car park developments, particularly associated with access to Marsden Grotto and Marsden Rock. However, several limestone plants still survive and the presence of *Serratula tinctoria* and *Brachypodium pinnatum*, yet another species near its northern limit in Britain with perhaps its largest stand in the area, is of special interest.

The future of the above areas are entirely dependent on decisions taken by the local authority in respect of the recreational development of the Marsden area. It is hoped that the identification of the botanical interest will enable this to be taken into account when siting further car parks etc. and preparing interpretative material particularly aimed at explaining the wildlife importance of the area.

THE QUARRIES

There are very few disused quarries in Tyne and Wear which have developed and still retain a rich vegetation. Undoubtedly the most important is Fulwell Quarry which has long been famous as a geological site. Amongst the rich and varied flora which has colonised the disused quarry floor in those areas not already used for tipping of domestic refuse is *Ophrys apifera* at what is probably its most northerly locality in Britain. Unfortunately this part of the quarry is threatened with tipping of colliery waste and much of the most important plant community, which includes *Pastinaca sativa* and *Blackstonia perfoliata* will be lost. Recently two other small colonies of *Ophrys apifera* outwith the proposed tipping area have been found and it is to be hoped that this species, at least, will be safe from extinction at this site. The long-term survival of the flora here will depend largely on the extent to which the Coal Board use it for tipping. However, the proposal by the Local Authority to develop the site for recreation and conservation will go some way to protecting the remaining features of biological and geological interest.

Two small disused quarries at Pitington and Downhill support species-poor magnesian limestone grassland communities. These were undoubtedly richer but overgrazing and eutrophication, associated with the foddering of cattle and horses, respectively have much reduced the interest. Some of the steeper slopes still support grassland with *Sesleria caerulea* with *Primula veris* and *Poterium sanquisorba* but this is very restricted.

THE WOODLANDS

Woodland is almost absent from that part of Tyne and Wear included within the area covered in this paper. The combined effects of industrial and housing development and agriculture have left only a very few woodlands which might be considered semi-natural and these are restricted to the steeper slopes particularly those associated with the valley of the RiverWear. Here, the limestone influence is Carboniferous rather than Permian and although the canopy species include *Fraxinus excelsior* *Ulmus glabra*, *Alnus glutinosa* and the planted *Fagus sylvatica* and *Acer pseudo-platanus* the ground flora and scrub layer are nowhere near as rich as those in the Durham Denes which will be described later in the third paper in this series.

Rough Dene, near Hetton-le-Hole, is one small area of semi-natural woodland which has developed on magnesian limestone strata. Here the canopy is dominated by *Fraxinus excelsior* and the invasive *Acer pseudoplatanus*, the understorey includes *Corylus avellana* and *Viburnum opulus* two species more frequently associated with base rich conditions. Similar woodland occurs in Burden Dene, but this is really an extension of Ryhope Dene which will be described later.

Near Tunstall Hills, adjacent to the SSSI and within the boundary of the Proposed Local Nature Reserve, there is an area of regenerating ash woodland. Here hawthorn scrub has invaded open grassland in the absence of grazing and the natural succession to ash woodland is taking place. It seems likely that this has resulted in the loss of species-rich grassland, but this has proceeded to such an extent that remedial action, by way of removing the scrub, is now neither practicable nor desirable. Elsewhere on the site, similar encroachment into species-rich grassland must be prevented, if the full range of variation of the vegetation is to be retained.

WETLANDS

Wetlands associated with magnesian limestone strata are very scarce in Tyne and Wear as they are in County Durham but include Nicholson's Pond Site of Special Scientific Interest and Barmston Ponds. Neither of these, however, are influenced by a calcareous substrata, although the former is rich in both plants and animals whilst the latter is especially noted for its passage migrant visitors. Another area is also worthy of mention since it is quite rich in species and seems to have survived the road construction works at Mount Pleasant. Here, the vegetation fringing the open water has *Filipendula ulmaria* and *Cardamine pratensis* whilst adjacent grassland supports *Primula veris* and the hybrid *P. veris x vulgaris*. Little information is available on the remaining wetlands and time did not permit their investigation. However, a marsh to the west of South Hetton, gravel pits at Warden Law and a small limestone spring at Offerton may repay investigation.

CONCLUSION

Despite the very large-scale development of industry and housing within the Tyne and Wear area, it is clear that a considerable variety of wildlife habitats survive

which serve to enhance the quality of an otherwise relatively degraded environment. Although the semi-natural grasslands are considered to be of greatest significance for nature conservation almost any semi-natural habitat is worthy of protection in this essentially urban situation.

In the case of the more important grassland sites, Herrington Hill and Hastings Hill it is clear that the establishment of some form of management agreement associated with nature reserve status would provide the most appropriate protection. However, this will only be fully effective in the context of an overall strategy to try to mitigate the effects of recreation and widespread vandalism in the remaining open land which will be particularly important in the immediate vicinity of Sunderland.

Thus in dealing with Tunstall Hills, Claxheugh and the Marsden area, wildlife conservation must be integrated into a strategy aimed at making best use of the area, bearing in mind the current extent of recreational needs. In the case of Tunstall the development of a Local Nature Reserve incorporating properly waymarked footpaths and educational/interpretative material should, together with appropriate management of the vegetation go a long way towards protecting the wildlife interest of the site. At Marsden and Claxheugh it will be important to integrate nature conservation requirements in developing their recreational potential. This is likely to be most obvious at Marsden where the sea bird colony lends itself particularly well to interpretation. However, in developing any facilities the botanical interest must also be considered.

In the case of the quarries and other remaining habitats there is perhaps little that can be done except urging those responsible for the use of these areas, including the land owners and their tenants, the Local Authorities and National Coal Board to take into account the requirements of wildlife conservation.

As we will see in the third paper, recreational pressures are amongst the most serious threats to the survival of many of the more important wildlife habitats along the Durham Coast as well as in Tyne and Wear. It is paradoxical that the increasing awareness of plants and animals as an integral part of the value of natural features such as Tunstall Hills, Marsden and Claxheugh may lead to even greater pressure being exerted on them. However, there is no reason why with careful planning and goodwill on all sides these sites should not be retained for the benefit of all.

ACKNOWLEDGEMENTS

Many thanks to Derek Hall for showing me some of the delights of the Sunderland area,

REFERENCE

Heslop-Harrison, JW and Richardson, JA (1953) "The Magnesian Limestone area of Durham and its vegetation". *Trans. North. Nat. Union* Vol. 2 Pt. 1 1-28.

TABLE A

Summary of the more important semi-natural limestone grasslands and quarries and the problems and opportunities associated with their conservation.

GRASSLANDS

Site	Status	Threats	Conservation Requirements
Tunstall Hills	Part SSSI	Recreation Scrub Encroachment Vandalism	Develop Local Nature Reserve including provision of interpretative material.
Herrington Hill	SSSI	Overgrazing Eutrophication	Establish management agreement with owner/ tenant.
Hastings Hill	PSSSI	Recreation	Establish as County Trust Reserve by agreement with owner
Penshaw Hill	None	Recreation Burning Scrub encroachment	Influence management in the interest of nature conservation through liaison with National Trust and Local Authority
Houghton Scarp	SSSI	Recreation Scrub encroachment Quarrying Overgrazing	Owner/Tenants of land.
Claxheugh Rock	SSSI	Recreation	Influence Local Authority planning decisions/develop interpretation
Marsden Hall Quarry	None	Recreation	
Marsden Golf Course	None	Spray drift	
Marsden Cliff	None		
QUARRIES			
Site	Status	Threats	Conservation
Fulwell Quarry	SSSI	Tipping Vandalism	Control and develop area as Local Nature Reserve
Haswell (Durham) Quarry	None	Tipping Reworking	Prevent and develop important areas as County Trust Reserve

Additions to Paper No. 1 The Durham Escarpment (Vasculum Vol. 62 No. 3 1977)

Two sites, not referred to in the earlier paper, are of some interest.

Haswell Quarry, to the south of Fulwell Quarry has recently been reopened and much of the vegetated quarry floor disturbed. However, there still remains a small area of well-established species-rich grassland at the edge of the site. Unfortunately, this too is threatened with destruction, as a result of tipping by the National Coal Board.

South Hetton Bog supports a flora influenced by water draining from the magnesian limestone. The most important species are *Carex rostrata*, *Potentilla palustris*, *Triglochin palustris* and *Typha latifolia* which make up a rich stand of fringing and emergent vegetation. The reported presence of *Primula farinosa* has not been confirmed.

THE COLEOPTERA OF CASTLE EDEN DENE: A SUPPLEMENT

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INTRODUCTION

In the six years since publication of the list of beetles collected in Castle Eden Dene, Co. Durham (Luff, Selman & Foster, 1974) a number of further species have been collected in the Dene, several of considerable interest. Alterations in nomenclature have also rendered inaccurate a few of the earlier records. The main purpose of this paper is therefore to provide a supplementary list of beetles collected, mainly by D.A.S., in the Dene since 1972, with amendments where necessary to the original list. Particularly rare or interesting species are commented on, otherwise only the habitat, date of first collection and locality or compartment number within the Dene (where known) are given.

Also included in the list are species which have been recorded previously from the Dene by other authors, but which have not been found in collecting since 1970. Most of these records date from the early 19th century and must obviously be treated with some caution. They are indicated in the following list by *, before the name, and the original published reference is given. Brief notes have been included for each to indicate the known range of habitat of the species in Britain, and hence the likelihood of its present occurrence in the Dene. Many of these old records are of species found on young, deciduous trees, possibly when much of the present woodland in the Dene was newly established. There are also species typical of coastal sand dunes, which may reflect changes in the Denemouth area before the industrial revolution.

Nomenclature in the list follows Kloet & Hincks (1977). In the case of old literature records, the name under which the species was first recorded is also given if this cannot readily be ascertained from Kloet & Hincks' checklist used in association with the original published records.

This supplement adds 91 species to the 361 Coleoptera previously recorded recently in the Dene (Luff, Selman & Foster, 1974). With the deletion of two species of *Sepedophilus* (q.v.) the recent beetle fauna totals 450 species. Four of these (2 *Pinella*, 1 *Leptusa* and 1 *Cantharis*) are re-named in this list. A further 37 species are known only from earlier published works.

We are indebted to Peterlee Development Corporation for permission to work in the Dene, and for providing facilities and finance for summer entomological surveys. Bill Monck, Conservator of the Dene, has given invaluable help and encouragement. Keith Elliot provided specimens of Coleoptera collected during his survey of badger setts in the Dene. We also thank Colin Johnson, Manchester Museum, Dr. Mike Morris, Institute of Terrestrial Ecology and Dr. Garth Foster, West of Scotland College

of Agriculture for advice on particular specimens. Work by D.A.S. from 1977-78 was financed by the Manpower Services Commission.

CARABIDAE

* *Leistus spinibarbis* (F.) Wailes (1833): this woodland species is near the northern limits of its range.

* *Brosicus cephalotes* (L.) Ornsby (1846): a coastal sand dune species, widespread.

Bembidion quadrimaculatum (L.) 17.5.78

B. harpaloides Serville 4D3, 20.4.78

B. obtusum Serville Denemouth. 10.12.74

* *B. quinquestriatum* Gyllenhal Hardy & Bold (1846): a very local species which has recently been recorded in Newcastle (Foster, 1973) and M.L.L. has a specimen from the Farne Is. (1967).

* *B. laterale* (Samouelle) Ornsby (1846) as *Peryphus leachii* Dejean: a widespread but local coastal species.

* *Calathus mollis* (Marsham) Wailes (1833): a coastal sand dune species, widespread.

Trechus quadristriatus (Schrank) Denemouth, 22.8.78

Amara tomitarts (Duftschmid) 17.5.78

Badister bipustulatus (F.) Denemouth, 10.12.74

* *B. sodalis* (Duftschmid) Bold (1872): a damp woodland species, very local.

Trichocellus placidus (Gyllenhal) Denemouth, 28.11.74.

Dromius melanocephalus Dejean 26.5.78

HYDRAENIDAE

Ochthebius dilatatus Stephens 17.5.78

HYDROPHILIDAE

Helephorus griseus Herbst Squirrel's drey, 2C1, 23.11.71.1 ♂ determined by Dr. G .N. Foster.

This local species was recorded by Foster (1970) from Salt Holme, Co. Durham; Dr. Foster informs us that he has since taken it at Close House, Heddon on the Wall, Northumberland which remains the most northerly confirmed British record for the species.

Cryptopleurum minutum (F.) 2C5, 3.5.78

Sphaeridium scarabaeoides (L.) stream, 6D4, 28.6.78

PTILIIDAE

Ptinella errabunda Johnson Mid-Dens. 29.7.71. This species was recorded as *P. aptera* (Guer.) in the earlier list. In a revision of the British *Ptinella*, Johnson (1975) described *P. errabunda* as a new species previously confused with *aptera*. It appears to be an immigrant species now widespread in Britain.

P. cavelli (Broun). This was recorded as *P. limbata* (Heer) in the earlier list, but has since been identified by Johnson (1975) as *P. cavelli*, a species known previously from New Zealand. It is now also widespread in Britain, especially in the North.

Acrotrichis fraterna Johnson 4D3, 20.4.78. A recently described species (Johnson, 1975) previously confused with *A. intermedia* (Gillmeister) which is also recorded from the Dene.
A. fascicularis (Herbst) IH, 13.3.78
Ptenidium laevigatum Erichson 13A 7, 3.78.

LEIODIDAE

Leodes rugosa Stephens Pitfall in badger set, 15.12.77. This very rare species was recorded as far north as Gilsland, Northumberland in Fowler (1889). The only other recent record is from Freshfield, S. Lancs (Johnson, pers. comm.).

SCYDMAENIDAE

Neuraphes elongatulus Muller & Junze 1E5, 3.5.78

STAPHYLINIDAE

Micropeplus tessera Curtis 4D3, 24.5.78. A rare but widespread species.

Metopsia retusa (Stephens) 4B 1.25.5.78

Megarhirus depressus (Paykull) 17.5.78

Anthobium atrocephalum (Gyllenhal) 1A, 4.5.78

Eusphalerum sorbi (Gyllenhal) 6B, 18.5.78

Phyllodrepa floralis (Paykull) Blackthorn, 2D5, 18.5.78

Omalium caesum Gravenhorst 4D3, 20.4.78

Syntomium aeneum (Muller) 1F-1G, 12.78

Stenus pubescens Stephens By pond, 19.5.78

S. nitidiusculus Stephens Denemouth, 21.7.70

Lathrobium fulvipenne (Gravenhorst) Denemouth, 5.12.74

Xantholinus laevigatus Jacobsen Denemouth, 28.11.74

Philonthus varians (Paykull) 17.5.78

Quedius fuliginosus (Gravenhorst) Nest of *Dolichovespula norvegica* (F.), 2C5, 24.8.78 Q.

scintillans (Gravenhorst) 17.5.78

Mycetoporus rufescens (Stephens) Oak/lime, 26.5.78. An uncommon species *Bolitobius inclinans* (Gravenhorst) Oak/lime, 26.5.78. Rare and local.

Sepedophilus nigripennis (Stephens) 4B 1,25.5.78. Following the revision of this genus (formerly *Conosomus*) by Hammond (1973), the previous records of *Conosomus testaceus* (F.) and *C. immaculatus* (Stephens) should be deleted. *S. littoreus* (L.) does, however, occur in the Dene, and was correctly recorded in the earlier list.

Tachyporus solutus Erichson Denemouth, 21.7.70

T. atriceps Stephens 2C5, 3.5.78

Tachinus corticinus Gravenhorst Denemouth, 10.12.74.

T. subterraneus (L.) Badger faeces, 15.5.78

T. humeralis Gravenhorst Badger faeces, 15.5.78

Placusa tachyporoides (Walt) 13.7.71

P. pumilio (Gravenhorst) 13.7.71

Leptusa pulchella (Mannerheim) should be recorded in place of *Gyrophaena pulchella* Heer, which was included in error in the earlier list.

L. ruficollis (Erichson) Bird's nest, 50, 22.11.77

* *Bolitochara lucida* (Gravenhorst) Bold (1872): local and near the northern limit of its range in Britain.

Autalia rlvularis (Gravenhorst) Badger faeces, 15.5.78

* *Falagria thoracica* Stephens Hardy & Bold (1850): at the northern limit of its British range.

Atheta nigricornis (Thomson) Bird's nest, 5A, 22.11.77

A. nidicola (Johansen) Squirrel's drey, 2Cl, 23.11.77

A. castanoptera (Mannerheim) Badger faeces, 28.10.77

A. picipes (Thomson) Badger faeces, 28.10.77. A rare species.

A. repanda (Mulsant & Rey) 7.71

Plataraea brunnea (F.) 2C2, 3.5.78

Aleochara lanuginosa Gravenhorst Blackbird's nest, 50, 22.11.77

SCARABAEIDAE

Aphodius obliteratus Panzer Badger faeces, 12.2.77. A local species usually occurring in sandy places.

A. ater (Oegeer) Badger faeces, 15.5.78

A. rufus (Moll) At light, 6F, 11.7.73

A. prodromus (Brahm) 4B1, 25.5.78

* *Melolontha melolontha* (L.) Scott (1965): a widespread species, the common 'cock-chafer'.

SCIRTIDAE

Elodes minuta (L.) Cotoneaster, 5A1, 25.7.78

BYRRHIDAE

Byrrhus pilula (L.) 40, 23.4.79

PSEPHENIDAE

* *Eubria palustris* Germar Ornsby (1846): a rare species found in damp places.

ELATERIDAE

Athous vittatus (F.) 15.6.70

* *Agriotes lineatus* (L.) Hardy & Bold (1852): a widespread species.

CANTHARIDAE

Cantharis rufa L. Castle wood, 1.7.70. The specimens recorded earlier as *C. darwiniana* (Sharp) from Oenemouth should be deleted, as *darwiniana* is now considered to be a dark variety of *C. rufa*.

C. paludosa Fallen Oenemouth, 21.7.70

* *C. abdominalis* (F.) Wailes (1833): a local, northern species usually found in hilly districts.

Malthodes mysticus Kiesenwetter 4A, 5.7.73
Malthinus frontalis (Marsham) Oak, 6D.28.6.78
M. taveolus (Herbst) Wych elm, 5C1, 25.7.78

ANOBIIDAE

Dryophilus pusillus (Gyllenhal) 15.6.70. A very local species, mainly southern, found on conifers.
Ernobius mollis (L.) 3F8, 11.7.78
 * *Anobium punctatum* (Oegeer) Ornsby (1846): a widespread domestic pest, the common 'woodworm'.

NTIDULIDAE

Meligethes brevis Sturm 15B7, 19.5.76. This very rare species, which has been recorded from Horden (Walsh, 1915) was found recently both in the Dene and further south (NZ 4738,20.5.78). Like the Castle Eden Argus butterfly, it lives on *Helianthemum*.
M. erythropus (Marsham) 6.71
Eपुरaea melina Erichson 3F, 23.4.75
E. longula Erichson Under elm bark, 13.7.71. A rare species near the northern limits of its range.
E. melanocephala (Marsh am) Pine, 3B 1,3.5.78
Soronia punctatissima (Illiger) Ash, 12B5, 27.7.78. A very local species, usually associated with the moth *Cossus cossus* (L.). This moth has not, however, been recorded from Durham and there are few recent British records of its occurrence. The beetle may perhaps be associated with insect burrows or dying trees.
 * *Cychramus luteus* (F.) Wailles (1833) as *Campta lutea* F. Widely distributed but rarer in the north.

CRYPTOPHAGIDAE

Cryptophagus distinguendus Sturm Badger set, 13A 7,3.78
Atomaria ruficornis (Marsham) Under elm bark, 13.7.71
A. nitidula (Marsham) 17.5.78
Caenoscelis subdeplanata Brisout 403, 24.5.78. This species was first found in Britain at Bretton Park, S.W. Yorkshire in 1965 (Johnson, 1966). It has since been found elsewhere in Britain (e.g. Alien, 1968, 1970) but Castle Eden is the most northerly record to date (Johnson, pers. comm.).

COCCINELLIDAE

Scymnus suturalis Thunberg Adelgid galls, 24.4.73. This is the most northerly record in Britain for this species (R.D. Pope, pers. comm.).
Adalia bipunctata (L.) 1E6, 25.7.73
Neomysia oblongoguttata (L.) 5.77

LAHTRIDIIDAE

Corticara gibbosa (Herbst) Adelgid galls, Norway spruce, 1 E5, 22.1.78

CISIDAE

Cis bidentatus (Olivier) Fungus, 5B, 7.3.79

TENEBRIONIDAE

* *Lagria hirta* (L.) Wailes (1833): a common species on Umbelliferae, etc.

TETRATOMIDAE

Tetratoma fungorum F. Polyporus on birch, 3C10, 12.3.79

PYROCHROIDAE

* *Pyrochroa serraticornis* (Scopoli) Ornsby (1846): this, the least rare of the British 'cardinal' beetles, is at the northern limit of its range.

RHIPIPHORIDAE

* *Metoeus paradoxus* (L.) Scott (1965): a rare and local species whose larvae live in the nests of wasps (*Vespula* spp.). It has occurred recently at Heddon on the Wall, Northumberland (M.L.L.).

CERAMBYCIDAE

Stenocorus merkitanus (L.) 3A-3B 1,2.7.74. A conspicuous species, very local in the north of England where it is at the northern limit of its range.

* *Rhagium bifasciatum* F. Wailes (1833): Cl common species in coniferous woodland.

* *R. mordax* (Degeer) Wailes (1833): also common, often in deciduous trees.

* *Alosterna tabacicolor* (Degeer) Wailes (1833) as *Leptura laevis* F.: widely distributed but rarer in the north.

* *Judolia cerambyciformis* (Schrank) Wailes (1833). a very local species, but wide- spread.

* *Strangalia melanura* (L.) Wailes (1833): at the northern limit of its British range.

* *Leiopus nebulosus* (L.) Ornsby (1846): local but widespread, usually on old trees; it has recently been found at Healey, Northumberland (M.L.L.)

CHRYSOMELIDAE

* *Cryptocephalus labiatus* (L.) Wailes (1833): generally distributed on young birch, hazel and oak.

* *C. moraei* (L.) Wailes (1833): local but widespread.

* *C. aureolus* Suffrian Wailes (1833) as *C. sericeus*: widespread but near the northern limit of its British range.

* *C. bipunctatus* (L.) Ornsby (1846) as *C. lineola* F.: very local and near its northern limit.

* *Chrysolina hyperici* (Forster) Wailes (1833): widespread but more local in the north. It has been found recently at Heddon on the Wall, Northumberland (M.L.L.).

* *C. oricalcia* (Möller) Wailes (1833): a local species near its northern limit.

* *Phytodecta olivacea* (Forster) Wailes (1833) as *Chrysomela litura* F.: common and widespread on broom.

Phyllotreta undulata Kutschera Oak/lime, 26.5.78

P. nemorum (L.) Oak/lime, 26.5.78

Longitarsus ganglbaueri Heikertinger Denemouth, 22.8.78

* *Cassida prasina* Illiger Hardy & Bold (1852): found very locally on thistles, but near its northern limits.

ATTELABIDAE

* *Attelabus nitens* (Scopoli) Wailes (1833): found locally on young oaks, etc., rare in the north.

* *Apoderus coryli* (L.) Ornsby (1846): local on hazel, near its northern limit.

Deporaus betulae (L.) 30.5.78

APIONIDAE

Apion curtirostre Germar Castle Wood, 1.7.70

CURCULIONIDAE

Sitona sulcifrons (Thunberg) Denemouth, 10.12.74

Tropiphorus terricola (Newman) 4B 1, 25.5.78

* *Philopodon plagiatus* (Schaller) Ornsby (1846): a common species on coastal sand dunes.

Hypera plantaginis (Degeer) 3.8.72

* *Cionus scrophulariae* (L.) Ornsby (1846): widespread on *Scrophularia*.

* *Dorytomus majalis* (Paykull) Ornsby (1846): a northern species found in *Salix* catkins.

Orthochaetes setiger (Beck) 1 F.1 G, 12.78. Found very locally on sandy and chalky soils, usually southern but extending north to W. Lothian.

* *Orobitis cyaneus* (L.) Wailes (1833): local, on sand or chalk.

Rhynchaenus ruse! (Herbst) Birch, 3B1, 18.5.78

SCOLYTIDAE

Hylurgops palliatus (Gyllenhal) Pine, 3B1, 3.5.78

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THE VASCULUM**DECEMBER 1980****Vol. 65 No. 4****Price £2.50 per annum, post free***Edited by***T. C. DUNN, M.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, 1981.****IMMIGRANT INSECTS**

In the July edition (Vol. 65, No. 2) we urged members to keep a lookout for Painted Lady butterflies (*Cynthia cardui* L.) later in the year. The forecast was given because of the early arrival of the species in coastal areas of Durham. After writing this we were informed of two further sightings: a single insect at Butterknowle (Co. Durham) on 28th June by Mr. R. G. Donald and another singleton at Quebec (Co. Durham) on 12th July by Mr. B. Moralee.

In spite of these forerunners it was with some surprise that we awoke on the morning of 29th July to find hoards of these beautiful butterflies all around the area. Soon, the telephone was ringing about sightings up and down the North East.

From Mr. J. T. B. Bowman at Wooler we had a most interesting and important set of observations. He was helping with an archaeological excavation at House Ledges on Black Law (near Gains Law) in the Cheviots (Map Ref. 987272), during the whole of the period from the end of July to the beginning of August. On 29th July the butterflies suddenly appeared and all through the day groups of three to five were continually present even though they were on the move all the time flying in a southerly direction. This continued throughout the next three days, July 30th, 31st and August 1st, so that many thousands of butterflies were involved. At the same time specimens were seen in the evenings in Horsden Quarry nearby, by the quarry manager's wife. On August 2nd and 3rd heavy thunder storms made observations difficult and by the time conditions had eased by the end of the week, the butterflies seemed to have dispersed.

Martin Finney reported more than 20 along a garden hedge in Sunderland on 31st July, and Mrs. V. Cromarty reported dozens from the cliffs near Sunderland on 1st August. On the same day a telephone call from Miss K. Blackett recorded insects at Cresswell and Seaton Sluice on the Northumberland coast. Mr. D. McCutcheon

saw two at Barlow (near Blaydon) on 30th July and during a walk from Winlaton via Barlow and High Spen to Chopwell on 31st July he encountered at least 24.

From Robert Woods at Sacriston came the news that there were dozens in late July, and Mr. C. J. Gent reports one on his Buddleia at West Gosforth on 1st August and nine altogether on the same bush the next day. An anonymous caller on the telephone, who had been out on a bird watching trip, said he had seen dozens in the Kyloe area of Northumberland on 1st August.

At Chester-le-Street we saw two on the river banks during the afternoon of July 29th, one on July 30th, three on July 31st, then between 30 and 40 on August 1st, 2nd and 3rd. After August 3rd we, too, experienced thunder storms and the insects either died or were dispersed. They continued to be present in ones and two throughout the period to August 14th when another sunny spell caused greater activity again, with small numbers appearing on the Buddleias in the garden as well as on the river banks. A singleton was seen on Waldrige Fell on 17th August during a guided walk. No more were noted until September 8th when a solitary survivor was noted on the river banks.

This was quite a massive invasion which would appear to have arrived on the coast on July 29th and then dispersed inland and southwards during the ensuing days. We thank all participants for their observations.

Red Admirals also appeared this year although not in such numbers as the Painted Lady. Mr. McCutcheon observed one at Thornley in May and four more in the same place on September 7th. Many members of the N.U.U. saw a fine example at Bay Bridge during the field meeting on September 6th. At Chester-le-Street again, Red Admirals became quite abundant in the garden and on the river banks between 26th and 30th September. Two were found resting overnight in one of the greenhouses on 28th September!

Lastly, a small Pyralid moth, *Udea ferrugalis*, a well-known immigrant, appeared commonly in the Rothamsted light-trap in the garden between September 11th and 27th

"OUTLOOK"

Recently we received through the post, a copy of the MAAF booklet "Outlook", the number concerned particularly with Tyne and Wear, Durham and Cleveland.

Inside we were drawn to the first article entitled "Autumn weed controls in cereals". The bad news was there for all naturalists to see. Before sowing any winter crop the farmer is advised to treat the ground with tri-allate liquid. Then just before estimated time of emergence of crop seedlings spray with methabenzthiazuron (Tribunil) and terbutryne (Prebane), or the newer, more expensive materials, pendemethalin (Stomp) and trifluralin/linuron (Chandor). Just before the emergence of crop seedlings through the soil, give them a slosh of chlortoluron (Dicurane) with a dash of isoproturon (Arelon, Hytane, Tolkan). Where there are weeds like chickweed a dose of mecopropos necessary during December. If you have barren brome grass then wallop it with metoxuron (Dosaflo, and with simazine, Fylene). But, surprise, surprise, none of these are perfect so recommendations are at present being developed for another set of chemical horrors to be applied in the spring, e.g. based on cyanazine and bromofenozin/terbutylazine or ioxynil and bromoxynil. If these are not sufficient try adding a gallon or two of isopropuron, which was one of those advised before the end of the year. Finally if you are not satisfied with this little lot, other materials

are listed in booklet number so-and-so, available free from the office.

By the time we had read through this we were having nightmares about the possibilities of what might be happening to all the animals, mainly invertebrates connected with arable fields both above ground and in the soil. Then we remembered all those arable fields along the banks of the River Wear between Croxdale and Fatfield, and wondered about the condition of the river water. We also remembered that a new water extraction plant on the river banks at Chester-le-Street is now pumping two million gallons a day into the Sunderland and South Shields domestic water supplies.

But let us continue. The second article was on the efficient control of slugs. More chemicals and exeunt slugs.

This was followed by a page on how to avoid mechanical damage to emerging seedlings, then what was this? An article, quite short, on making sure of efficient workmanship in carrying out field drainage schemes so as to effectively eradicate all ponds and swampy patches.

There followed three articles on improvements in the treatment of livestock, then at long last a little good news. A whole page is devoted to the Countryside Commission's project for planting trees, with details of grants of course, and information about where to put the saplings.

No wonder there is a steady and inexorable reduction in the richness of our wildlife populations. It seems to us that the average farmer is not so much to blame as the Ministry of Agriculture, Fisheries and Food, who are issuing all these gems of advice with all the authority of a Government department. What can we naturalists do against such a force?

NOTICE

Will subscribers with bankers' orders please note that the annual subscription is now £2.50. If you have omitted to inform your bank of the change, will you please remedy the situation before the New Year, so that the right amount will be transferred to the N.N.U. account on that date.

THE SOCIETIES

NORTHERN NATURALISTS' UNION

The 156th Field Meeting was held on July 5th 1980, at Wingate Quarries Local Nature Reserve, by kind permission of Durham County Council.

The weather turned out to be very co-operative, one of the few fine days of this wet summer. About sixty members and friends were conducted round the quarry complex by Dr. A. Todd and Mr. Dennis Hall.

The ponds were first investigated. Here we found flote grass (*Glyceria fluitans*), marsh foxtail (*Alopecurus geniculatus*), common spike-rush (*Eleocharis palustris*), Compact rush (*Juncus conglomeratus*), Toad rush (*Juncus bufonius*), Hard rush (*Juncus inflexus*). Branched bur-reed (*Sparganium erectum*). Water plantain (*Alisma plantago-aquatica*). Water forget-me-not (*Myosotis caespitosa*), Marsh marigold (*Caltha palustris*), Lady's smock (*Cardamine pratensis*), Marsh bedstraw (*Galium palustre*). Marsh ragwort (*Senecio aquaticus*). Water starwort (*Callitriche sp.*). Water horsetail (*Equisetum fluviatile*), and Marsh horsetail (*Equisetum palustre*).

In the rest of the quarry reserve the flora was mainly that associated with limestone spoil heaps going over to limestone grassland and in places to hawthorn/ ash scrub. Typical plants were such species as Hard poa grass (*Catapodium rigidum*), Yellow oat grass (*Trisetum flavescens*), Wood false brome (*Brachypodium sylvaticum*), Hairy oat grass (*Helictotrichon pubescens*), Red fescue, (*Festuca rubra*). Carnation sedge (*Carex panicea*). Glaucous sedge (*Carex flacca*). Many-headed rush (*Luzula multiflora*). Yellow rattle (*Rhinanthus minor*), milkwort (*Polygala vulgaris*). Small scabious (*Scabiosa columbaria*). Greater knapweed (*Centaurea scabiosa*). Tufted vetch (*Vicia cracca*). Bladder campion (*Silene vulgaris*). Lesser thyme-leaved sandwort (*Arenaria leptoclades*). Frog orchid (*Coeloglossum viride*), Twayblade (*Listera ovata*). Spotted orchid (*Dactylorhiza fuchsii*). Hoary plantain (*Plantago media*), Common centaury (*Centaureum erythraea*). Lady's bedstraw (*Galium verum*), and Birdsfoot trefoil (*Lotus corniculatus*).

Mr. F. Stubbs, looking out for plant galls, found many examples of the gall midge *Wachtliella persicariae* on Amphibious Bistort (*Polygonum amphibium*), a second gall midge *Dasyneura urticae* on stinging nettle, and a third, *Dasyneura ulmariae* on meadow sweet.

Because of the fine weather the entomologists had a rewarding day with eight butterflies on the wing. Large Skipper (*Ochlodes venata* spp. *faunus*). Dingy Skipper (*Erynnis tages*), Small White (*Pieris rapae*). Orange-tip (*Anthocaris cardamines*), Common Blue (*Polyommatus icarus*). Small Tortoiseshell (*Aglais urticae*). Meadow Brown (*Maniola jurtina*), and Small Heath (*Coenonympha pamphilus*). The fivespot Burnet (*Zygaena lonicerae*), was also flying. A few moths were disturbed from the vegetation — Silver ground Carpet (*Xanthorhoe montanata*). Yellow Shell (*Camptogramma bilineata*). Latticed Heath (*Semiothisa clathrata*), and Chimney Sweeper (*Odezia atrata*).

The 157th Field Meeting was held at Blanchland on 6th September 1980, when about 30 members and friends gathered in the village car park to be led by Mr. Dunn.

The route lay along the south bank of the Derwent to Bay Bridge and Hunstanworth, then through the fields and coniferous plantations to Gibraltar Point.

Here a picnic tea was enjoyed by most people before continuing on the north bank via Newbiggin Hall and the farm to Bay Bridge and so back to Blanchland.

The weather was fine and sunny but very windy so that few insects were seen on the wing. On the south bank of the Derwent, between Blanchland and Bay Bridge, however, there was one place with a large patch of devil's-bit scabious (*Succisa pratensis*), where the flowers were covered with two species of hover flies, *Eristalis pertinax* and *Volucella pellucens*. Apart from these we saw one Red Admiral butterfly at Bay Bridge, an Ear Moth on ragwort at Gibraltar Point and a full-grown caterpillar of the Birch Sawfly on the handrail of the bridge across the Nookton Burn at the same place.

The botanists fared much better although there was little other than the common species. It was nice to see the red-fruiting elder (*Sambucus racemosa*) in the woodland along the Hunstanworth road and Hedge Bedstraw (*Galium mollugo*) in the hedge a little further on.

Mr. Hall, concentrating in the fungi, found *Russula mairei*, *Russula cyanoxantha*, *Armillaria mellea*, *Cortinarius armillatus*, *Lactarius camphoratus*, *Lactarius tabidus*, *Lactarius blennius*, *Lactarius turpis*, *Lactarius piperatus*, *Lactarius quietus*, *Boletus scaber*. *Boletus chrysenteron*, *Collybia peronata*, and *Tricholomopsis rutilans*.

Mr. Fred Stubbs was again doing his stuff on the plant galls and recorded *Chirosia*

parvicornis on Buckler fern, *Hartigiola annulipes* on beech, *Andricus fecundator* and *Cynips divisa* both on oak.

The 13th Harrison Memorial Lecture was delivered in the Church Hall, Consett on 1st November 1980, by kind invitation of the Consett and Vale of Derwent Naturalists' Field Club. To an audience of over a hundred Mr. I. R. Hornsby lectured on the "Creation of a Nature Reserve", taking as his subject the working of gravel beds along the River Coquet at Castron just west of Rothbury.

Mr. Hornsby explained that the restoration of such workings as at Castron is now a planning necessity. When the works were opened in 1968 it was decided to create nature reserve conditions as the gravel was extracted, so that as the extraction process proceeded upstream landscaping and planting-up processes followed on the heels of the working area. This was necessary as it would be very difficult, indeed almost impossible for earth moving machinery to get at the early workings after leaving them. Plans for creating ponds with lagoons and bays, islands and peninsulas, and swampy areas were worked out beforehand. Any large trees were left in position and later became features on small islands. Much planting-up with suitable species of trees has taken place, the earlier plantings now being large enough for suitable nestboxes to be attached thereto. Ground vegetation has come in naturally and now the early workings have become a very rich wildlife reserve, with many species of plants, birds and insects which are not only indigenous to the area but have increased in numbers in the very favourable habitats that have been created.

The lecture consisted of a steady flow of slides, the photography being possibly the most superb ever witnessed at a N.N.U. lecture. The timing was so perfect and the flow of information so apt that this was a most impressive lecture. The pictures showed before and after views of the reserve itself together with the background landscape. There were shots of the various stages of reclamation and vegetation succession, together with close-ups of the plants, birds and insects that have been seen there as well as in the surrounding areas. Our special thanks go to Mr. Hornsby for providing us with such a splendid afternoon.

Tea was provided by the ladies of the Consett and Vale of Derwent Naturalists' Field Club after the lecture when everyone had a chance to talk over problems of conservation and look at the extensive array of wildlife exhibits. Mr. Pirt had brought an extensive collection of leaves and twigs with fruits of most of our deciduous trees and shrubs. He also put out two slices of a large tree trunk showing the annual rings and with them ran a competition. Members were challenged to compute the age of the tree from which the slices were taken and there were prizes of young tree saplings for the winners. Mr. Hall showed two live potted plants and a large selection of pressed flowers, Mr. Mann a case illustrating the life history of that very shy creature, the Lunar Hornet Moth, Dr. Davies a case of live bluebottles with notes on their ecology and distribution, Mr. McCutcheon brought an aquarium containing a number of live snails and a specimen of an unusual variety of the Large Emerald Moth, Mr. Dunn put out a case of immigrant butterflies. Dr. Turnbull exhibited twigs of Whitebeam fruits with notes on their palatability and uses, and lastly Miss Sanderson lined the wall panels with beautiful bird paintings.

ANNFIELD PLAIN AND DISTRICT NATURALISTS' CLUB

The Field Outing season got off to a fine start on March 22nd, with a cliff walk from Seaburn to South Shields. Resident birds had already taken up quarters on

Marsden Rock and the nearby cliffs but it was too early for the visitors from overseas. On 5th April we were in North Yorkshire, again in fine weather, when we walked from Semerwater to Bainbridge. Lesser Celandine and Coltsfoot were in flower and there was an increasing activity amongst the birds, curlew, robin, peewit, sky-lark, meadow pipit and pheasant were all in evidence. April 19th, another sunny day, saw Mr. Reay lead a party from Castleside along the old railway track to Waskerley then over moorland to Saltersgate for a picnic tea. Then on via Tunstall Reservoir to Wolsingham to meet the bus. Flowers were now beginning to appear in profusion and we saw primrose, wood anemone, water crowfoot, marsh marigold, butterbur, golden saxifrage, hairy bittercress, vernal sandwort, and barren strawberry. Birds seen included heron, dipper, curlew, peewit and black-headed gull. We saw our first frog spawn of the season. Two buses carried members to York on May 3rd. One party proceeded further to Acaster Malbis and walked back to York. This was mainly a historical day for both parties. Summer weather made 17th May a memorable one when we walked along the Greta from Bowes to Barnard Castle. Brignall Banks were in full colour with bluebells, early purple orchids, goldilocks, crosswort, forget-me-not, bugle, common wood violet, cuckoo-pint, woodruff, red campion, water avens, garlic and sweet cicely. The swallows and house martins had now arrived and were seen hawking flies everywhere, whilst resident species were in the full throes of nesting and incubating eggs.

NOTES AND RECORDS

NOTES

A Wryneck at Sacriston. On October 2nd 1980, a wryneck was noticed on a tree stump on Witton pit heap, Sacriston. The bird was seen on several occasions for about a week on the same stump which it seems to have adopted as a lockout. Vandals cut down the stump towards the end of the week after which it was seen no more. This species is most unusual in our area. Could it have got off course during an autumn movement?

G. Forth

Leathery Turtles on the North East Coast. A photograph of the rare leathery turtle, *Dermodochelys coriacea* made the front page of the *Berwick Bulletin*, on October 8th 1980. The five foot six inch long specimen, weighing 12 cwts., had been caught in nets by the St. Abbs fishing boat *Avail*, off the Berwickshire coast, and was transferred to another vessel, the *Guiding Star*, which landed the animal at Eyemouth. Still very much alive, the turtle was taken by lorry to Oban to become a temporary resident at a 'marine wildlife park' before being returned to the sea.

L. D. Brongersma (1967) in his 'Guide for the Identification of Stranded Turtles on British Coasts' (British Museum Nat. Hist.), says of the Leathery Turtle, "From 1756 to 1966 the species has been recorded forty-two times in British waters, northwards to Shetland. Live Leathery Turtles have been sighted or captured at sea from June to November; in the winter months (December to March) only dead specimens have been observed. No strandings of live specimens have been reported, all specimens found ashore being dead. Recent records from Norway show that this turtle goes northwards to about 70 degrees north",

P. Davis

Fieldfares. With reference to Mr. Pirt's report of a flock of Fieldfares passing over on 2nd May in the July Vasculum, I have several records for late April but none for May. Witherby's Handbook of British Birds (1938) states, "Passage-migrants arrive on S. coast England from late March through April to early May. These join our winter visitors, which leave much as they arrived throughout April to early, and sometimes, mid. May, and even end of month in northern isles". It would, therefore, appear that a May date for the bird is not abnormal and that there has not been any change in its habits.

C. J. Gent

The 'J. B.' Herbarium at Sunderland Museum—a mystery partially solved. In a note on the Backhouse family and their contribution to the study of the natural sciences, (*Vasculum* 62, 1, p.6). Dr. Long mentioned the problematical 'J.B.' herbarium at Sunderland Museum, and hinted that the collector could have been James Backhouse (1825-1890). A comparison of the handwriting of this botanist to that found on the 'J.B.' sheets (a very distinctive hand) ruled out this suggestion, but the problem remained—who was J.B.?

Unfortunately the Museum's accession registers provided little help—inadequate documentation of many plant collections given to the museum around the turn of the century only confuse the issue, and it is impossible to recognise the J.B. collection here.

The problem has recently been solved by a thorough examination of the collection, which consists of some 400 sheets collected between 1869 and 1879. The majority of the specimens collected 1869-1872 come from Thornhill and Carronbridge, whilst the remainder (approx. 10%) were collected in East Durham. The most interesting discovery, however, was the fact that a number of sheets are annotated 'J. Brown', and that others (all from Dumfriesshire) have been donated by Robert Brown, the brother of J. Brown.

Correspondence with the Curator of Dumfries Museum, and the B.S.B.I. Recorder for v.c. 72 resulted in some additional information about the botanical Browns. A plant collection in the Burgh Museum, known as the T. Fingland (of Thornhill) Collection included several sheets collected by R. Brown and one by J. Brown. The latter specimen bears a label in Fingland's handwriting but the specimen is from Sunderland, and many of the R. Brown specimens are also from the Sunderland area.

The mystery then is partially solved—we know now the name of the collector and that specimens collected by him exist in Dumfries Museum as well as Sunderland. However, as yet no biographical details of J. Brown have come to light. There is no reference to him (or to R. Brown or T. Fingland) in Ray Desmond's **Dictionary of British and Irish Botanists and Horticulturalists** (1977), the standard biographical reference work. The nature of the Dumfries-Sunderland collection is also still unknown, as is the name of the donor of the Sunderland specimens. The most likely candidate appears to be a Mr. J. Warburton who donated 'five parcels of botanical specimens' in March 1889.

P. Davis and Veronica Woolley

Some recent bird population changes in Durham—a preliminary report. The extremely hard winters of 1962/3 and the early months of 1979 took their severe toll of resident birds in Durham. Many seem to have recovered reasonably or at least partially from these winters but others have, after two full breeding seasons, shown no sign of a return to old haunts or increase in their diminished populations.

Other factors have also to be taken into account. The weather, frequently with cold springs, does not appear to encourage many species to complete nests or egg laying or to remain sitting throughout a cold spell. The result is that many nests are deserted. Also after the heavy snow falls, many evergreen trees and bushes were lost due to the weight of snow which completely brought down trees up to 30 feet in height. This, combined with tree felling, usually essential, and hedge removal reduces the number of suitable nesting sites.

A local woodland census plot shows further factors. The census area had no carrion crows (*Corvus corone*) nesting within its limits when first surveyed, then, a few years ago, one pair arrived and bred successfully. The next year two pairs were present and now there are four pairs within a short distance of each other. The total bird count may be quite high but it is still depleted due to the indifferent weather and the larger predator population. A huge toll of both young and adult birds can be found below and near the nests of these crows. Amongst the dead have been found young rooks, (*Corvus frugilegus*), adult stock dove (*Columba oenas*), adult and fledged starlings (*Sturnus vulgaris*), amongst many other species. The most vulnerable period in open situations, such as trees and hedges, is just after hatching. Parents visit the nest to feed the young. Crows are always on the alert, sometimes from a high vantage point, and they swoop down, following the parent, thus finding and ending another nest. Magpies (*Pica pica*) and other Corvidae also take a lesser toll. The other main predator is man.

With many open nests in trees and bushes attacked by predators, and thickets and hedges rapidly diminishing under human influence, blackbirds (*Turdus merula*) and some thrushes (*Turdus philomelos*) have resorted to more ground nesting. Even here the inevitable crow appears to be on the attack. Apart from the more open nests, loss of starlings nesting in holes, tits (*Paridae*), and others nesting in either open fronted or closed hinged nestboxes often takes place from this persistent predator. It resolutely tugs at hinges until removed, opens the lids if at all possible and removes the contents. Complete persistence seems to be its story of success, returning again and again to try a different method of attack until it reaches its goal.

Other residents using smaller holes and more inconspicuous places appear to have recovered to varying degrees. Wrens, robins, blue, coal and great tits may be grouped here. Nuthatches (*Sitta europaea*) show no increase so far on the 1979 figures, when they were down to half or less strength. Tree creepers (*Certhia familiaris*) appear slightly on the upward trend, but still missing from this survey plot are goldcrests (*Regulus regulus*), marsh and willow tits (*Parus palustris* and *P. montanus*). Long-tailed tits (*Aegithalos caudatus*) are still erratic.

Finches and dunnocks (*Prunella modularis*) also appear to be fluctuating highly with numbers mostly down on the pre-1979 average. Rooks since 1961 are, however, increasing again after a dramatic decrease a few years ago.

From this short resume, it can be seen that hard winters, cold springs resulting in a poor food supply and predators have an adverse effect on much of the bird population. Apart from these there are many other hazards both natural and man-made which are agents in the balance or otherwise of these woodland areas. If we are to maintain a variety and not just numbers of a few remaining species, then provision must be made to help in the conservation of the highly fluctuating species, especially as most areas are coming under increasing pressure from other sources.

Hazel M. Johnson

Blowfly Trapping. Readers may be interested to know that I have taken numbers of *Calliphora alpina* Zett. the "alpine bluebottle" during July and August this year. Previously it was known in Britain only from two males, one from Glenmore, Inverness-shire in 1935, and another from Moorhouse National Nature Reserve in 1961 or 62. I have run baited blowfly traps at various points and taken *C. alpina* at several sites in Upper Teesdale, on Chapel Fell and on Bollilhope Fell near the summit of the road leading to Eggleston. The nearest place to Durham and the lowest was at Hisehope on the Waskerley Moors at 1450 feet altitude.

At some of these places another supposedly rare species also appeared, namely *Calliphora loewi*. Also on the N. Yorkshire Moors a third species *Calliphora subalpina* which is allied to *C. Alpina* but quite distinctive and clearly a separate species has been caught by the same technique.

This probably shows that no-one has done much bait-trapping for blow-flies at 1400' and upwards.

L Davies

Strange occurrence in Seaham. One of the more bizarre records of our fauna arrived in Sunderland Museum on 2nd September, 1980, sealed inside a large cigar tin (as distinct from a tin for large cigars), and receiving the greatest (arms length) respect from the R.S.P.C.A. officer involved. This strange and possibly deadly animal had been found inside a house in Wynyard Street, Dawdon, striking terror into the hearts of the occupants. The local constabulary were however admirably ready for any such situation, having vast quantities of large cigar tins for emergency use. The beast was covered, captured, arrested and placed in a high security cigar tin to await the attentions of the R.S.P.C.A. On arrival at the museum, the deadly 'snake' was found to be a slow-worm *Anguis fragilis*, one of the few records for east Durham for this attractive animal. The intruder was sentenced to a period of photography and sent to an open prison some way from Seaham.

Peter Davis

Bird Notes for 1980. My activities were restricted this year owing to eye trouble which entailed a couple of spells in hospital.

A mild winter was followed by a cold spring. A willow warbler was in song at Low Gosforth on April 16th, but I did not record my first swallow until May 11th when there were also house martins and swifts at Seaton Sluice. Blackcaps (four) and a chiffchaff were singing in the grounds of Wallington Hall on May 19th. Reed Warblers were present in the reed bed at Gosforth Park Lake and two were singing there on July 6th. My only cuckoo record was one calling on the moors near Edmundryers on June 4th.

I last heard swifts on August 8th when a number were flying over Jesmond in the evening.

C J Gent