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THE VASCULUM

APRIL 1989

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BY THE WAY

Secretaries of Societies and other contributors to the Vasculum should send their notes to the Editor before 15th June. 1989.

FIELD MEETINGS FOR 1989

1. Saturday, 10th June, Hedley-on-the-Hill, South Northumberland. Leader: Nick Cook.
2. Saturday, 8th July, Blackhall Rocks, Durham Coast. Leader: Russell McAndrew.
3. Saturday, 9th September, Rosa Shafto Nature Reserve, Spennymoor. Leader: Morris Cowley.
4. Saturday, 21st October, Dove Marine Laboratory, Cullercoats. Leader: Peter Davis.

22nd. Heslop Harrison Memorial Lecture.

To be held at the Sunderland Museum and Art Gallery, on Saturday, 4th November. Speaker: Nigel Turner, on the 'Natural History of Teesdale'. Details by post later.

BRITISH PLANT GALL SOCIETY

All naturalists are invited to the Annual Meeting of the BPGS on Saturday, 29th July, 1989, at Thorp Perrow Arboretum, near Bedale, with indoor facilities adjacent at the Village Institute, Snape.

From 11.00 a.m. in the field; the formal AGM (as brief as possible) will be held in the afternoon. Lunch can be arranged with an attractive menu at about £3, but to confirm this, approximate numbers by the end of April will be helpful. So please let the local representative know, absolutely without commitment, if you are likely to attend. All enquiries will be answered with full details of the day's plans much nearer to the time. Dr. P.J. Gates, 1 Westfield Drive, Crook, Co. Durham. (0388 763005).

PERIODICALS — BACK NUMBERS

Darlington and Teesdale Naturalists Field Club has for disposal back numbers of the following publications.

BSBI Proceedings and Watsonia, 1967-84.

Naturalist (Y.N.U. Journal of Natural History of North of England), 1968-79.

Bulletin of Amateur Entomologists' Society, 1977-81.

Proceeds will go to the club library. A list, on request with SAE, from DTNFC, 127 Bates Avenue, Darlington, DL3 OUE.

THE MILD WINTER

The months of December 1988 and January and February 1989 have produced the warmest mid-winter temperatures that we can remember. Although we have not seen any statistics, it would seem that this has been the mildest winter on record.

The effects on wildlife have been dramatic. Many of the early spring garden plants burst into flower during the last few days of January. In the garden at Chester-le-Street there was a remarkable show of rockery *Campanulas, Iris reticulata* and snowdrops, whilst in sheltered woodland rides coltsfoot flowers added a welcome splash of yellow.

The animals, too, had their timetables completely upset. Red squirrels were more than usually active right through the January and February period. Early Spring moths like the Hebrew Character *(Orthosia gothica)* appeared on the wing in late January, its usual time of emergence being in late March, throughout April into early May. Other less abundant species like the Red Chestnut *(Cerastis rubricosa),* Common Quaker *(0rthosia stabilis)* and Small Quaker *(Orthosia cruda)* appeared a week or two later in February. We have never before encountered such an early emergence and the surprising result is that these early moths are more than usually abundant even in the middle of March when the weather has taken a turn for the worse and become more wintry.

On the farms too, already crops of rape are showing a small percentage of plants bursting into flower.

We look forward with interest to the forthcoming spring and summer, to see if there have been any other long-term effects on the life-histories and abundance of our plants and animals.

OBITUARY ~FRED STUBBS (22-11-1913 to 28-12-1988)

It was with deep regret that we learnt of the death of Fred Stubbs. He died at his home in Harmby, N. Yorks on 28th December, 1988.

Our association with him dated from the 1960's, when he became well known as an enthusiast in the study of plant galls, a study which became almost an obsession, leading to national recognition when, virtually single handed he founded the British Plant Gall Society in 1985 after several months of intensive lobbying. This involved much travelling about the country to consult with other interested workers. Eventually it was with some delight that he telephoned to announce the publication of the first Bulletin of Plant Galls in May 1984. Immediately, there was interest and enthusiasm from alI parts of the country which led to a meeting in September 1985 when the British Plant Gall Society was formed. Thereafter the publication of a 'News Letter' and 'Cecidology' became the society's successors of the early

Bulletins. Fred became the Editor, of course, and he very soon realised that some means of identifying galls was a first priority for those joining the Society and in 1986 he was able to announce the production of "Keys to British Plant Galls". It sold out very quickly and is now in its third edition.

Members of the N.N.U. will remember him best as the gall enthusiast in frequent attendance at our field meetings, where he could be heard talking about the invertebrates that had produced the galls that he found en route. He was also a competent lepidopterist and compiled very useful check lists for his garden at Crook and for Witton-le-Wear Nature Reserve.

He retired from the staff of New College, Durham, where he was a lecturer, in 1973 and moved from Crook to Wensleydale shortly afterwards. Although no longer able to attend our meetings so frequently after this, he continued to do so whenever his duties with the Plant Gall Society allowed. If he could not attend he would always give his apologies by telephone, when we would have long conversations on matters of mutual natural history interest.

A man of many parts, he was a good botanist and entomologist as well as an expert on galls. We will miss his expertise and cheerful dry humour. Our sympathy goes out to his wife Hilda and two daughters, Sheila and Hilary.

THE SOCIETIES

NORTHERN NATURALISTS' UNION

The 65th Annual Meeting was held in the Hancock Museum on March 18th, 1989, by the kind invitation of the Natural History Society of Northumbria.

After welcoming the members present, the President, Mr. Peter Davis asked everyone to observe a few minutes silence in memory of Robert Boyne, Fred Stubbs and Miss Winifred Lomas, all of whom had died during the past year. There followed a short business meeting of officers' reports and the election of officers for 1989-90. In her report of the state of the finances, the Hon. Treasurer, Mrs. Thompson announced a surplus on the year's working, but pointed out that this was due to the sale of "Moths and Butterflies of Northumberland and Durham". Since the monies accumulating from this source were required for the publication of Part 2 of the book, it had been recommended by Council and the Hon. Auditor that subscriptions should be raised. Accordingly the suggestion that the basic member's subscription should become £5.00 on 1st January 1990, with appropriate increases in other categories, was put to the meeting and accepted unanimously. Will members paying by Bankers Order please note and make arrangements with their bankers to have the present commitment altered.

The business was then followed by a lecture on "The Wildlife of Costa Rica" by Dr. Trevor Walker. The scene was set by slides showing the geographical position, climate, types of habitat and the people of the towns and cities of Costa Rica. The country has about the same area as England but the numbers of species found there showed how very much more luxurious are its tropical habitats. Flowering plants (8,000 species), ferns (900), reptiles (210), amphibians (150), birds (820), butterflies (1,000) and insects in general so numerous that no rough count of species can yet be estimated, illustrated the point very well.

Plants and animals specially adapted to the environment are plentiful. Such examples included the palms, tree ferns, orchids etc. of the rain forest area. A striking adaptation to

the continuous rain and mist of this habitat is the development of 'drip-tips' on the ends of the leaves of several plant species. Here there were many epiphytes, the bromeliads and orchids being well represented. The animals too were very special; many species of bats (mostly insectivorous), a very large millipede, and leaf-cutting ants were shown. In the dry forest zone on the Pacific side of the central mountains there was much more leaf litter on the ground but the trees were not so tall. Here the armadillo lived in holes in the deeper soil. Changes were taking place in this area where suitable conditions for farming were possible after the destruction of the forest. This was mostly of beef production for the U.S. hamburger market.

In the higher mountainous regions (up to 12,500 feet) the forest is more dwarfed with less moisture as rain but with almost a continuous supply of cold mist. Here the Bromeliads (e.g. *Tillandsia)* were particularly frequent. Lastly a number of species from North America had gained a footing in this habitat. Two that were illustrated were the foxglove and a species of lady's mantle.

After a vote of thanks by Dr. E. Turnbull and thanks to the various people organising the arrangements for the meeting, the members adjourned to an ajoining room for tea so well prepared by Mrs. Hall. At the same time the exhibits were inspected and discussed. These consisted of N.N.U. publications by Mr. Dunn, live tiger moth larvae, a set adult specimen and an example of the Vestal, a rare immigrant moth were shown by Mrs. Jackie Beedle, and various illustrations concerning the Orthoptera Recording Project and the Dragonfly Recording Project were put out by Nick Cook. This included distribution maps and sound recordings of the songs of grasshoppers and crickets, each one named by the presenter.

DARLINGTON AND TEESDALE NATURALISTS' FIELD CLUB

The Annual Report for 1988 showed a slightly reduced membership over the previous year. Most meetings were well attended and there were 8 summer meetings and 24 winter meetings. Reports were included from 5 sections, but archaeology, astronomy, geology and marine life were missing. It is hoped that these sections are still thriving.

BOTANY (H. Peacock). A record number of 408 species were recorded during the year. Various interesting species were found on walks in the county including a magnificent patch of Toothwort, Few-flowered Leek, Greater Chickweed and Black Spleenwort. Visits to a chemical waste tip, sand dunes and a farm where conservation is being carried out were quite rewarding.

ENTOMOLOGY (J.M. Jackson). Lists of sightings are given for butterflies, moths and other insects from March to October. Also the results of a moth trapping evening by Baydale Beck and a walk near Ferryhill Station.

FRESHWATER LIFE (C. Birkbeck). Salmon and sea trout spawned in the R. Tees in Autumn 1987. Ramshorn snails were seen again in Cocker Beck, a distinct improvement after the river pollution. »

MAMMALS (D.I. Griss). Sightings are listed of the various mammals seen and a note of the two common seal pups born on Teesside — one of which may have been the dead pup found later at Redcar.

BIRDS (D.I. Griss). Over 90 species are listed and main occurrences given. Due to felling, the Gainford heronry no longer exists. Sand martins appear to be increasing again

and waxwings reached Darlington in mid November. Many of the records refer to Teesside.

Other reports include the weather and various outings including the weekend at Rydal Hall, Cumbria, where various interests were well provided for: The Washington/Tunstall outing also gave opportunity for watching birds at Washington and looking at limestone geology in the afternoon, with its associated flora and also a few butterflies. Rievaulx was visited for its geology and Nenthead to Alston mainly for the plants. The last outdoor meetings of the year were for plant galls and a fungus foray.

BIRTLEY AND CHESTER-LE-STREET NATURAL HISTORY SOCIETY

After a successful season of winter lectures, the Annual General Meeting, which was the last indoor meeting, was held on Tuesday, March 21st.

In his report the President, Mr. T.C. Dunn, thanked the members for their attendance and support during the evening talks. The interest generated was most apparent in the standard and quantity of questions after each lecture. This is always a great stimulus to speakers and helps to show how much their talks are appreciated. The attendance at the monthly field outings was not so good however, and the President appealed for more enthusiasm in this area of activity.

The Secretary's report was correspondingly brief and was followed by a short statement of the finances of the Society by the Hon. Treasurer, Mr. R. Harris. He reported that the membership had remained exactly the same as in the previous year and that there was a healthy balance in the bank. He therefore advised that there was no need to alter the annual membership subscription, currently 50p.

After the election of officers for 1989-1990, summer outings were then formulated and dates finalised.

The evening concluded with a short talk by Mr. Dunn on a recent holiday in Tenerife, illustrated by a number of photographs.

NOTES AND RECORDS

NOTES

Waxwings. Many have been recorded this last winter in the area, but a small group of 8 seen just outside the University Botanic Gardens, Durham on November 6th were of special interest. Although there was some snow on the ground, it was sunny with no wind and the waxwings were on a tree trilling. First one then another would perform a fly catching flight returning to the tree. Eventually, one bird flew down to a small *Viburnum triloba* Bush (with translucent red berries and N. American in origin), followed quickly by the others. They then devoured the berries.

H.M. Johnson

Lively Bats. On several occasions this winter bats have been seen flying around or heard squeaking. On December 2nd at 8.45 p.m. after the Carol Service in the Cathedral, bats (genus and species not determined) were seen flying short distances between rafters in the cloisters. Bats were heard squeaking on two further occasions, 4th January at 10 a.m. and 5th January at noon but in different parts of the cloisters.

H.M. Johnson

Early appearance of some spring moths. The early appearance of some of our moths has already been mentioned elsewhere in this journal, but some extra facts and figures are perhaps appropriate.

The Hebrew Character, *Orthosia gothica* L., a common species which normally appears in March and April, was taken in a Gloucester Rothamsted trap during the last week of January. In our area the Chopwell trap was the first locality to record it on 5th February, where on the same night a specimen of the Pine Beauty, *Panolis flammea* D. & S. also appeared and the first Red Chestnut, *Cerastis rubricosa* D. & S. arrived on the 11th. Elsewhere in the county *O.gothica* was on the wing at Butterknowie on 7th February and Terry Coult recorded

O. gothica, *C. rubricosa* and two other precocious species, Common Quaker, *Orthosia stabilis* D. & S. and Clouded Drab, *Orthosia incerta* Hufn. on February 8th. Even in the far north of Scotland at a trap at Cromarty, *O. gothica* was flying on February 3rd, 7th and 9th. All these records are most unusual and possibly the earliest ever recorded. A trap of some sort has been operated continuously at Chester-le-Street since 1952, but no such early emergences have been recorded in any of the intervening 37 years.

Unusual Microlepidoptera. 1988 has been a year during which research into the distribution of the microlepidoptera has been more intensive than ever before. This has resulted in a number of new county records, some of which have already been published in this journal.

Phyllonorycter trifasciella Haw., a species which feeds on the leaves of honeysuckle and snowberry, has been recorded for Durham and Northumberland in past years but not in recent times. Specimens arrived in the Rothamsted traps in Castle Eden Dene on 31st July and 7th September 1988.

Elachista revinctella Zell. (*adscitella* Stt.),, previously confused with *Elachista megerlella* Hb., has now been found in Castle Eden Dene and Chopwell Wood, after some correspondence with the late E.C. Pelham-Clinton on the way to separate the two species.

Semioscopis steinkellneriana D. & S. arrived as a single specimen in the Hamsterley Forest trap on 5th April 1988. This appears to be the first record from Durham.

Epagoge grotiana Fabr. has rarely been recorded from Northumberland and Durham in previous times but not during the present investigation until it turned up both in Chopwell Wood and in Castle Eden Dene in some numbers during 1988.

Epinotia mercuriana Frol. This species has been known for many years from the heather moors on our Pennine uplands. It was quite a surprise when specimens were discovered on Waldridge Fell on 22nd August 1988 for the first time in about 50 years of collecting there. Very few lowland heaths are known where this species occurs and certainly no other in Durham.

T.C.D.

A recent collection of Microlepidoptera. It was my pleasure to be presented with a collection compiled by M.D. Eyre of Newcastle University during 1979, 1980 and 1981. All specimens were carefully labelled with date and collecting locality, but not identified. Two species new to Northumberland were discovered therein. *Cacoecimorpha pronubana* Hb. is a species whose arrival in this country in 1905 has had its movements well documented. At first it was restricted to the south of the country but it began to spread northwards in the 1930's. Two specimens taken at a lighted window at a house in Spital Tongues on 9th June 1981 represent its most northerly station to date.

In the same collection I found a single specimen of *Pandemis dumetana* Treit from Rothley Lakes on 1st August 1981. This specimen was a great surprise as its previously most northerly limit of distribution appears to be East Anglia.

T.C.D.

RECORDS

LEPIDOPTERA — BUTTERFLIES AND MOTHS

Semiothisa wauaria L. V moth. 67
Earliest record atAllerwash 16-7-82, but only five records since first seen in 1981, latest 9-9-86. Conf. T.C.D.
Plagodis dolabraria L. Scorched Wing. 67
Earliest record 16-6-86, only four records prior to the end of 1987. Dunn and Parrack have only one record, Conf. T.C.D.
Apeira syringaria L. Lilac Beauty 67
Earliest record27-6-82 at Allerwash. 1986 was a better year including 2 in trap 19-7. In 1987 3 in the trap 13-7. Conf. T.C.D.
Ennomos erosaria D. & S. September Thorn. 67
Earliest and only record at Allerwash 16-9-85. Dunn and Parrack regard this as a doubtful species in the North East. Conf. T.C.D.
Biston strataria Hufn. Oak Beauty. 67
Earliest record 6-3-84 at Allerwash House light. Dunn and Parrack suggest that it is limited to the Tyne Valley. Conf. T.C.D.
Lomographa temerata D. & S. Clouded Silver 67
Earliest record 26-5-80. Recorded each year since 1978. A prompt arrival most years within three days of the month end. This experience is in line with the comments in Dunn and Parrack on the population explosion. Conf. T.C.D.
Dyscia fagaria Thunb. Grey Scalloped Bar. 67
Earliest and only record at Allerwash 3-7-76. Also at East Steel Whitfield (GR NY 76/80) 3-7-86. Conf. T.C.D.

Furcula furcula Cl. Sallow Kitten. 67
Earliest record 31-5-86 (only record). Outer margin of central band angles towards the costa and is dentate. Smaller than Poplar Kitten. Dunn and Parrack reckon it commoner than *F.bifida* below. Conf. T.C.D.
Furcula bifida Brahm. Poplar Kitten. 67
Earliest record 26-6-86, only previous 7-7-77. Identified by clean curved inner side of main band on forewing. Larger than Sallow Kitten which has a notch on outer side of main band on forewing. Total now three records. Conf. T.C.D.
Notodonta dromedarius L. Iron Prominent. 67
Earliest record 16-82. More usual at end of June and through July. Sometimes a second brood, e.g. 25-8-81, fresh on 5-8-86, six rather worn in trap 15-7-86. Conf. T.C.D.
Odontosia carmelita Esp. Scarce Prominent. 67
Earliest record 20-3-81, more regularly April 20 to May 20. In 1975 and succeeding years only one specimen noted p.a., however latterly several recorded p.a. including two or three in trap on several nights — often very fresh.
Drymonia ruficomis Hufn. Marbled Brown. 67
Earliest record 24-4-82, latest 2-6-86. Not common but one or two in trap on some May evenings every year since 1978. The biack crescent just above the centre of the forewing, mentioned by South, is bolder than his illustration shows. Conf. T.C.D.
Diloba caeruleocephala L. Figure of Eight. 67
First record 5-10-85, continues until early November. Occasionally e.g. 26-10-80 a very large blotched eight.
Orgyia antiqua L. The Vapourer. 67
Earliest record 16-8-80. Recorded in 1975, 76, 80, 82, 84 and the latest in 1985 all by day.
Dasychira fascetina L. Dark Tussock. 67
Earliest and only record 26-7-80. Conf. T.C.D.
Euproctis similis Fuess. Yellow Tail. 67
Earliest record 22-7-84, first found at Allerwash 31-7-83. Only two records to date. I have frequently taken this easily recognised moth in the south of England and until D & P published I did not think of keeping a specimen.
Leucoma salicis L. White Satin Moth. 67
Earliest record 5-8-83, also first at Allerwash and only one. Dunn & Parrack quote 1957 as being the most recent record for Northumberland.
Diaphora mendica Cl. Muslin Moth. 67
Earliest record 1-5-84. Not common. First recorded in 1982 and one or two noted in May each year since. Males only in trap. 1987 was a good year with one or two in the trap until 8-5. D & P say not progressing far inland
Nola confusalis H.S. Least Black Arches. 67
Earliest record 18-5-86 and first. Two in trap on that date and several each night in following weeks. So small it could be passed as a micro but for the shape of the wings. South says it flies in May and June. He refers to records from Scotland and Yorkshire but not to the northern counties. Conf. T.C.D.
Agrotis ipsilon Hufn. Dark Sword-grass. 67
Earliest record 5-10-86 previous 15-10-77. Conf. T.C.D.
Rhyacia simulans Hufn. Dotted Rustic. 67
Earliest record 4-8-86. Said to be extending its range.
Anaptectoides prasina D. & S. Green Arches. 67
Earliest record 4-6-80. A beautiful green moth which alas loses its colour quickly. 1986 an excellent year in trap most nights. Four on 16-7-86, continued common most nights until 5-8-86.1987 even better, in trap 19 nights between 18-6 and 29-7, as many as 16 on the best night. My records show that it has certainly increased during recent years at Allerwash, which is contrary to the comments in Dunn & Parrack.
Discestra trifolii Hufn. The Nutmeg. 67
Earliest record 24-8-77 and only to end 1987. D & P suggest an occasional immigrant.
Hecatera bicolorata Hufn. Broad-barred White. 67
Earliest record 26-5-80, only two others 20-6-79 and 1-7-85.
Hadena confusa Hufn. Marbled Coronet. 67
Earliest and only record 11-6-84. Seems to extend westwards the note "thin distribution in lower Tyne Valley" mentioned by Dunn & Parrack,
Panolis ftammea D. &. S Pine Beauty. 67
Earliest record 31-3-80 which was the first time at Allerwash, more usual records (1981-85) about April 20. Not taken in 1987 but I was away at the end of April Confirms D. & P, "few records concentrated in mid Tyne Valley." Conf T.C,D.
Cucullia chamomillae D & S Chamomile Shark 67
Earliest record (and only) 5-6-81. Conf. TC.D
Cucullia umbratica The Shark. 67
Earliest 29-6-85 and 29-6-86 (with 2-7-77 only three records)

Brachionycha sphinx Hufn. The Sprawler. 67
Earliest 24-10-86. First record in 1975 then not again until 29-10-82 since when seen each year at the end of October or early November, usually at the front door light at Allerwash. Rarely more than two sightings a year.
Xylena vetusta Hb. Red Sword-grass. 67
Earliest record 29-4-83 (and only), Conf. T.C.D.
Dichonia aprilina L. Merveille du Jour. 67
Earliest record 20-9-86. Usually seen throughout October rarely more than one in the trap at a time.
Dryobotodes eremita Fabr. Brindled Green. 67
Earliest record 21-8-82 (first recorded 29-8-81), no further records until 1987. My reading of D. & P. suggests these are the first records from Northumberland since the 1960's.
Agrochola helvota L. Flounced Chestnut. 67
Earliest record 8-9-87, previous 14-9-77. Conf. T.C.D.
Agrochola lychnidis D. & S. Beaded Chestnut. 67
Earliest record 5-10-86, only previous 24-9-83 Conf. T.C.D.
Atethmia centrago Haw. Centre-barred Sallow. 67
Earliest record 19-8-87 (previous 20-8-76). Becoming steadily commoner from 1981 and particularly in last two years to 1986.
Xanthia citrago L. Orange Sallow. 67
Earliest record 20-9-77. One hatched in captivity 20-8-83 having been found as a larva behind an election poster in early June.
Acronicta leporina L. The Miller. 67
Earliest record 4-6-80, only other records 4-7-79, 2-7-86.
Acronicta aini L. Alder Moth. 67
Earliest record 1-6-82, only other 3-6-80. Not recorded in Dunn and Parrack. Conf. T.C.D.
Editor's Note:This species has of course, been recorded in these pages since the publication of D. & P.
Craniophora ligustri D. & S. The Coronet. 67
Earliest record 4-6-80. Has been noted each year since 1977, always in June. Seems to be becoming commoner and in 1986 appears to be more variable in ground colour being greenish or blackish as well as the more usual grey. Did not appear in 1987. Conf. T.C.D.
Mormo maura L. Old Lady. 67
Earliest record 13-8-86, first capture, a second 14-8-86. D. & P. say found in vicinity of water. Prophetic! One disturbed when trimming river bank at Warden 25-8-87 which was only one in 1987. It was actually in a hole in the bank 6" from the water.
lpimorpha subtusa D. & S. The Olive. 67
Earliest record 2-8-87 (and first). D. & P. "a decidedly scarce species in Northumberland."
Apamea epomidion Haw. Clouded Brindle. 67
Earliest record 26-6-87. D. & P. "a far from common species." Conf. T.C.D.
Amphipoea lucens Freyer. Large Ear. 67
Earliest record 6-8-77. Conf. T.C.D.
Amphipoea oculea Treit Common Ear. 67
Earliest record 10-8-82. Conf. T.C.D.
Hoplodrinia blanda D. & S. The Rustic. 67
Earliest record 18-7-86 (and only one to end of 1987). D. & P. "found it in the Tyne Valley as far inland as Stocksfield".
Pseudoips fagana L. Green Silver Lines. 67
Earliest record 2-6-86. Only 3 prior records, 1977, 1982, 1984, all in the first half of June. Perhaps becoming commoner? Conf. T.C.D.
Colocasia coryli L. Nut Tree Tussock. 67
Earliest record and first 22-5-76 and the only one to the end of 1987. Conf. T.C.D.

P.L. Tennant

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BY THE WAY

Secretaries of Societies and other contributors to the Vasculum should send their notes to the Editor before 15th November. 1989.

EARLY IMMIGRANTS

The abnormally warm winter followed by a fine spring have combined to produce conditions which, not surprisingly, have encouraged early movements of insects from abroad.

We were surprised, however, to see two Red Admirals *(Vanessa atalanta)* as far north as the Isle of Colonsay on May 27th, but later learnt that Peter Tennant had seen it the day before (May 26th) in the Tyne Valley, lan Findlay had also seen it, together with a painted Lady *(Cynthia cardui)* at about the same time in Upper Teesdale. Peter Tennant also reports a sighting of the Humming Bird Hawk Moth *(Macroglossum stellatarum)* at Cold Park Wood near Nunnykirk on 15th June and a Pearly Underwing *(Peridroma saucia)* on 20th June at Allerwash. An early Silver Y (Autographa gamma) came to the Chester-le-Street trap on 26th June but again Peter Tennant was able to beat this with one at Allerwash on 24th May.

These are all extremely early dates for the northern part of the British Isles and it is to be hoped that the present trend of warm weather will produce many more such pleasant surprises.

ANTENNA

By an arrangement with Gordon Port, the North Eastern organiser for the activities of the Royal Entomological Society of London, we are now receiving a complimentary copy of "Antenna" their quarterly news bulletin. For this we are particularly grateful as it puts a new light on the study of entomology in general. Most of the copy is written by professionals the

resulting slant on the subject being quite different from that enjoyed by the amateurs who constitute the bulk of the N.N.U. group. This difference is highlighted in Antenna by a running correspondence between the two sides illustrating their differences in outlook. Perhaps the most frequent point to be emphasized is the freedom of study possessed by the amateur, which the professional is seldom able to enjoy because of his total commitment to a work directive.

Antenna is available on loan, from the Editor, by any member of the N.N.U. Please enclose a 91/2" x 61/2 " stamped and addressed envelope.

DURHAM COUNTY QUARRIES

Durham County has more than the average share of quarries, many of which have now been worked out and abandoned. They result from the extraction of Magnesian Limestone, Carboniferous Limestone, Sandstones, Whin, Ganister and possibly other kinds of stone. Some of the quarries are still in use, of course, but far more have been left as holes in the ground. Over the years the older ones have become invaded by vegetation which has been seeded in from surrounding natural habitats. For example, the magnesian limestone quarries have become good examples of magnesian limestone grassland, with its typical rarities like *Sesleria albicans* (Blue Sesleria Grass), *Helianthemum chamaecistus (Rockrose)*, *Epipactis atrorubens* (Dark-red Helleborine), *Coeloglossum viride* (Frog Orchid), *Gymnadenia conopsea* (Fragrant Orchid), *Ophrys apifera* (Bee Orchid), *Anacamptis pyramidalis* (Pyramidal Orchid), *Linum anglicum* (Perennial Flax), *Plantago media* (Hoary Plantain), *Centaurea scabiosa* Greater Knapweed, *Pimpinella saxifraga* (Burnet Saxifrage), *Silaum silaus* (Pepper Saxifrage), etc., with a similar although perhaps less diverse flora in the carboniferous and Whin Sill quarries of Weardale and Teesdale. Sandstone quarries are not so productive but the few ganister quarries are rich in acid loving plants particularly where some moisture is available. Several (excluding most of the magnesian limestone quarries) have ponds or streams running through them which create other habitats. All possess shelter from high winds and heavy exposure to the weather. To a naturalist they have become recognised as places for exciting botanical studies while the entomologist finds them fascinating for the associated insects. The geologist has both rock sequences and fossils. Altogether they form little wildlife museums of the natural habitats that surrounded them before the originals disappeared under the plough.

Sadly, the waste disposal authorities also look upon them as useful places for hiding human rubbish. Several of the best have been filled up in recent times and their potential as wildlife reserves lost forever. We can but hope that the present increase in public concern and pressure for re-cycling human waste will eventually have more success than at present.

LAMPING WITH THE PROFESSOR

This is a true story from long ago but not so far away of a mothing expedition at dead of night early one April. The Professor, who was well known for such unusual outings had arranged to initiate an up-and-coming lepidopterist into the art of lamping. Now lamping was a well known technique for searching for moths in the days (or at any rate nights) long before motor cars, light traps and other sophisticated equipment became such essentials. One simply prowled around where plants and shrubs were in full bloom and hoped that hordes of moths would follow the light much as the Pied Piper of Hamelin gathered his hordes of rats. Then with a net it was easy to capture the choicest specimens.

On the night in question, the initial venue was Birtley Fell, a place no longer in existence,

having been destroyed more recently by the construction of a motorway. The creeping willows were in full catkin, just at the right stage for attracting the early Noctuids (stupid beasties that come out only at night). Disappointingly a cool breeze had strengthened with nightfall and only a few of the very common Hebrew Characters were to be seen. With long faces the two conspirators decided to descend to lower altitudes and proceeded towards Birtley via the road leading from Eighton Banks. Half way down the bank the Professor proposed that they should look at the Eared Willows in a damp hollow just off the road. So over the wooden fence they climbed, risking great personal damage, and directed their lamplight on the catkins once again. This was apparently a much more favoured feeding ground for the moths and the two became fully occupied. Just as the Professor was heard to say "Quick, capture that one, it's a red Powdered Quaker", the sound of a happy but inebriated songster couid be heard coming up the road towards Eighton Banks. The pub at the Birtley end of the bank, possibly the Coach and Horses, had obviously done well out of him. On reaching the fence opposite our two worthy scientists the reveller stopped to watch the fun and eventually shouted "Hi, wat yer deein doon there?" The Professor and his friend made no reply but went on collecting, by this time being fully absorbed in their work. Again came the shout "Hi, wat yer deein doon there?", but again without reply. By this time the noise had attracted a second tottering gentleman who was likewise wending his way homewards. He also stopped and asked the first, "Wats gannin on mate?" At this point the first man could contain his curiosity no longer and replied, "Ah divvent knaa, but watiwer it is they're gettin, ah's ganna hev some", and began to climb the fence with some difficulty. At this juncture, the lamps of our two heroes suddenly faded out, and they themselves faded away into the darkness of the night.

The story must end here for history makes no further mention of what happened that night.

THE SOCIETIES

NORTHERN NATURALISTS' UNION

The 184th Field Meeting was held on 10th June 1989, in Hedley Woods, about half a mile west of the village of Hedley-on-the-Hill, the leader being Nick Cook.

Between twenty and thirty members and friends gathered at the entrance to the woods in beautiful sunny weather. The woods themselves consisted mainly of Scots Pine with odd specimens of oak, birch, rowan, ash and beech mixed in, mainly along the verges of the stands of conifers. The pines were mostly of the same age, planted by the National Coal Board about 25 years ago, but there were occasional groups of trees of a much older planting. The roadways were wide with some open spaces and a pond, giving rise to a diverse ground vegetation of some interest although without any rarities.

The entomologists were very successful, turning up a number of species which were discussed and identified. The butterflies were those to be expected at this time of the year, namely Large Skipper, Large White, Green-veined White, Orange-tip, Small Tortoiseshell, Wall Brown and Small Heath, all typical of woodland rides and open spaces. In this habitat the Chimney Sweeper *(Odezia atrata)* was also prominent.

Moths beaten from the trees, shrubs and vegetation along the tracks were Silver-ground Carpet *(Xanthorhoe montanata),* Cream Wave *(Scopula floslactata),* Common Carpet *(Epirrhoe altemata),* Small Argent and Sable *(Epirrhoe tristata),* Clouded Border *(Lomaspilus marginata),* Bordered White *(Bupalus piniaria),* Common Marbled Carpet *(Chloroclysta*

truncata), together with a number of Micros, *Epiblema cynosbatella* beaten from Rose, *Eulia ministrana* beaten from alder and *Aclens comariana.* Evidence of other Lepidoptera was encountered as caterpillars of Mottled Umber *(Erannis defoliaria),* Winter Moth *(Operophtera brumata)* and the nests of *Yponomeuta evonymella* on bird cherry. Nick Cook had set up a Heath Trap the previous night and when opened it yielded Poplar Hawk Moth *(Laothoe populi),* Small Square Spot *(Diarsia rubi),* White Ermine *(Spilosoma lubricipeda),* Muslin Moth *(Diaphora mendica)* and numbers of Silver-ground Carpets. Other insects seen were the ladybird, *Calvia quattuordecimguttata,* the longhorn beetle *Rhagium bifasciatum* and the Large Red Damselfly, *Pyrrhosoma nymphula.*

The last species was found in large numbers flying round the edges of a recently constructed pond which provided a focus for the investigation of aquatic plants and other animals. Already it contained Smooth Newts, frog tadpoles (with some adults round the edges) and the best find, a water shrew.

A sad moment occurred when a red squirrel with a damaged spine was found attempting to climb a pine trunk without any success. Nothing could be done for it and although loath to leave it, this is what happened in the end. There were many signs here and there of roe deer and resident badgers although none were seen.

Altogether this was a most enjoyable afternoon, not only for the abundance of the wildlife but also because of the beautiful weather.

NOTES AND RECORDS

NOTES

Thanks to J. Milligan. Mr. Milligan has kindly provided the Union with a new minute book with part pages to allow inserts and aims to provide the leather back with gold lettering. He has also renovated the current minute book which was looking very much the worse for its many years of use. We are deeply grateful.

Interesting early moth captures from Allerwash. The arrival from abroad of *Peridroma saucia,* Pearly Underwing on 20th June has already been mentioned elsewhere, and apart from being an early season, 1989 has produced two especially interesting records.

Hadena confusa Hufn., Marbled Coronet arrived on 26th May, only my second record. *Acronicta alni Linn.,* The Alder, taken on 28th May, only my third record.

P.L. Tennant

The Knopper Gall, *Andricus quercuscalicis* Burgs. I saw this species a couple of years ago in the Bath area and again in 1987 on two acorns in Stewarts Park, Middlesbrough. In 1988 it was recorded at Preston Park, Stockton, on the north side of the River Tees in vice county 66.

The gall was first recorded in Northamptonshire in 1962 and has spread throughout southern and midland England. It affects the acorns of *Quercus robur* and is caused by a Cynipid wasp. It consists of an irregular, ridged cone, which is well attached to the acorn by a concealed stalk. Inside the inner chamber is a single larva. The gall wasp overwinters in the acorn when it falls to the ground in Autumn. It emerges in Spring and flies in search of *Quercus cerris* where it lays its eggs in the male flower buds. The alternate generation is on the catkins of the Turkey Oak.

S. Robbins

Parasites of parasites

So naturalists observe,
a flea Hath smaller fleas that on him prey,
And these have smaller fleas to bite 'em
And so ad *infinitum*.....

Jonathon Swift (1727)

A pastoral dialogue between Richmond Lodge and Marble Hill.

This well-worn and oft misquoted passage seems particularly appropriate to a recent enquiry received at Sunderland Museum. Its relevance is only deficient in that it deals with the wrong insect order!

The enquiry was received from Gina Smith, a teacher at Hill View Primary School. She had been trying to

raise large white butterflies *(Pieris brassicae)* with limited success. The caterpillars were degenerating to be replaced with a cache of small yellow cocoons. Lepidopterists who have experienced the same problem will immediately recognise this as the work of a parasitic ichneumon. *Apanteles glomerata (=Colesia glomeratus).* The wasp parasitises various Pierid caterpillars, always laying a number of eggs. The adult wasps emerge from their cocoons by slicing a neat lid off the top.

This, not uncommon phenomenon, was complicated by the fact that although the cocoons were definitely those of *Apanteles*, the adults emerging were definitely not; they were members of the family Ichneumonidae (at which point my powers of identification ceased!), whereas *Apanteles* is a member of the family Braconidae. The empty cocoons, moreover, had not been opened in the usual neat way.

It transpired that my adults were indeed ichneumonids (which, by the way, usually lay only one egg in their host) of the genus *Mesochorus* (det. Dr. M.R. Shaw). These were parasitising the *Apanteles* whilst they, in turn, were parasitising the caterpillars. These parasites of parasites are termed **HYPERPARASITES** and depend on being able to locate individuals of their host within the host's host! and there are a number of genera that behave in this way. The situation can be further complicated by another set of parasitic species that lay eggs in the *cocoons* of *Apanteles*. Because this stage of the life-cycle is not within the original host caterpillar, the new wasps are not true hyperparasites, they are therefore called **PSEUDOHYPERPARASITES** — luckily there were none of these present to further confuse the issue!

On a serious note, insects are noted for their ability to evolve rapidly to exploit habitats and situations. There can be few better examples of this than hyperparasitism where the reproductive behaviour of a number of species has become so inextricably linked.

The adults were emerging from February 1989 onwards.

Acknowledgements

I am indebted to Dr. Mark Shaw of the Royal Museum of Scotland for the determination of the adults and of course to Gina Smith for her original enquiry.

Alec Coles

The Oak Nycteoline. For some months an entomological survey of the Malton Wildlife Trust Reserve has been forging ahead with the help of various specialists who identify the species. The Microlepidoptera have been submitted to Tom Dunn who usually manages to name them all.

A small grey specimen with very little in the way of colour pattern was captured on 30th April 1989, which was new to T.C.D. He was puzzled by what looked like a member of the genus *Aclens* (a Tortricid moth), whose wing colour failed to fit any of the known members of the group and whose labial palps were much too long. The moth was, therefore, sent off to Ted Hancock of Ulverston, a specialist in the Tortricidae. He, too, at first thought it was an aberrant Aclerid, but was also puzzled by the palps. A dissection of the genitalia proved it to be a specimen of *Nycteola revayana* Scop., a species which, at present, is classified as a Noctuid with Tortricid similarities. In Dunn and Parrack, The Moths and Butterflies of Northumberland and Durham, only a few records are listed from the Derwent and Tyne Valleys, forming a neat cluster on the distribution map with a single isolated example from Hindleysteel in west Northumberland. The present capture, therefore extends the range of this very local moth, further south into vc 66.

T. Coult

The Large Oak Beauty. In Dunn and Parrack, the Oak Beauty, *Biston strataria* Hufn. is noted in vc 66 by a single record from Barnard Castle in 1947. On the other hand it has been known from the mid Tyne Valley for over 30 years. The position has now changed with the arrival of two specimens in the Hamsterley Forest trap on March 30th, 1989.

This represents quite a large extension of its present known range in vc 66, and it is more than likely that it is much more widely although thinly distributed than was previously thought to be the case. It ought to be possible for some of the intervening gaps in distribution to be filled in the near future.

B. Walker

Curious mating behaviour of *Micropterix aruncella.* Scop. The genus *Micropterix* is a very small group of Microlepidoptera, five species of which are listed for the British Isles. Four of these are recorded from the north east. They differ from all other moths and butterflies in that they possess biting mouth parts for feeding on pollen instead of the usual coiled proboscis for sucking nectar. Although so fundamentally different from all other Lepidoptera they are retained in this group because of other similarities, especially because their wings are covered with scales. They are little known because they are so tiny and inconspicuous. They are to be seen feeding in the flowers of several species of herbaceous plants including sedges, especially during May and June. Buttercups are often favoured by their attentions where they frequently occur in swarms.

Recently, such swarms were found in flowers along the railway fence in the meadows by the River Wear just west of Wolsingham. Three species were present. *Micropterix calthella* was present in very large numbers in the buttercup flowers but only a single individual of *M. aureatella* was seen. Contrary to all expectations *M. aruncella* was seen only on the leaves of *Myrrhis odorata*. There were very large numbers of them as with *M. calthella* in the buttercups. This was so unusual that I spent some time watching their movements. They appeared to be chasing each other up and down and under the leaves with great speed and agility, usually appearing in pairs before disappearing underneath the leaf. An attempt was made to turn over the leaf to see what was happening on the underside. At first this was unsuccessful, the insects just flying away. Soon they were back again repeating the whole activity. With a little practice a leaf was at last turned over without disturbing the tenants. They were together in pairs in the mating position. Has any other member seen this rather spectacular performance?

T.C.D.

The Banded Demoiselle. During a Guided Walk for the County Council programme in Rainton Park Woods on June 11th, 1989, a member of the party found a newly emerged specimen of *Calopteryx splendens* Harris, the Banded Demoiselle. It was brought to me on a bramble leaf where it had apparently been drying out after emerging from its larval casing. It continued to rest in this position, fully displayed in all its beauty, while several members of the group took photographs.

According to C.O. Hammond, The Dragonflies of Great Britain and Ireland, this species is at its northern limit in our counties.

T.C.D.

A good year for the Small Pearl-bordered Fritillary. It is pleasing to report that the Durham colonies of the Small Pearl-bordered Fritillary, *Boloria selene* D. & S. have had an exceptionally good year. Instead of numbers in the region of 5 to 10 pairs, in all the colonies visited up to 50 pairs were seen during the second week of June, a rather early date. The weather was very hot, with continuous sunshine and this possibly encouraged a mass emergence at the same time instead of the usual practice of being spread over a longer period. Unfortunately the warm sunshine also encouraged continuous flying and so the insects soon became ragged and worn. Just ten days after the first sighting on one colony the flight period was just about over. On the other hand continuous flying time would also be suitable for mating and egg laying.

T.C.D.

The distribution of Junipers. To botanists and entomologists alike there is always something attractive about the discovery of an isolated juniper, and perhaps even an atmosphere of mystery and wonder at the strange outline shapes in a well grown thicket of the plants as on the Upper Teesdale National Nature Reserve. In spite of its wide distribution in the North East, conservationists are worried about its disappearance from many of its well known sites. In the Hisehope Valley on Muggleswick Common, for example, once known to naturalists as Juniper Valley, plants are dying off quite regularly without any regeneration. Some research into this matter has shown that seedlings are very vulnerable either to the weather or to disturbance by stock, chiefly sheep. They seem to require shelter or protection for very long periods.

Recently, a single well grown, health specimen was found in a little triangle of road junctions at Ragpath Side between Lanchester and Cornsay. This area seems to be a little remnant of a former heath, for there is also a good growth of *Caltuna* amongst which are some of the tallest specimens of *Genista anglica* (Needle Furze or Petty Whin) that I have seen anywhere.

Another single plant of juniper was also encountered recently in West Butsfield Quarry. This, I hasten to add, was not in a part that had been quarried. It was, in fact, near an old pathway that I have used hundreds of times before without noticing the bush. This year the occasion was in early spring before the surrounding trees and bushes had come into leaf to hide it from view.

In both localities only a single plant is now alive, but there is little doubt that these plants represent the last survivors of a more extensive juniper forest which may once have covered a large part of the west of Durham County.

T.C.D.

RECORDS

FLOWERING PLANTS AND FERNS

Juniperus communis L.Juni per 66
A single plant between Lanchester and Cornsay at NZ 145448 by the side of the road, and another in West Butsfield Quarry at NZ 098447, neither being shown on the distribution map in Graham G.G.; The Flora and Vegetation of County Durham.
Genista anglica L. Petty Whin, Needle Furze 66
Several plants in the *Calluna vulgaris* by the road at Ragpath Side, between Lanchester and Cornsay near the Juniper recorded above. Not shown on the distribution map in Graham's Flora, where incidentally the common bame is incorrect.

ODONATA — DRAGONFLIES

Calopteryx splendens Harris. Banded Demoiselle. 66
A single specimen recently emerged by the bank of the River Wear in Rainton Park Woods.

CECIDIA — GALLS

Andricus quercuscalicis Burgs. Knopper Gall — Wasp. 66
On *Quercus robur*, in Preston Park, Stockton in 1988

S. Robbins

LEPIDOPTERA — BUTTERFLIES AND MOTHS

Nycteola revayana Scop., Oak Nycteoline. 66
A specimen of this very local moth came to light at Malton, near Lanchester on 30th April 1989, the third record for vc 66. T . Coult
Biston strataria Hufn. Oak Beauty. 66
Two specimens arrived in the Hamsterley Rothamsted trap on 30th March 1989. This constitutes the first record in recent times, being preceded only by J.P. Robson's record in 1947. Known in our area in vc 67 for the last 30 years.

B. Walker

Herminia tarsipennalis Treit. The Fan-foot. 67
Earliest record at Allerwash 7-7-76. Conf. T.C.D.
Entephria caesiata D. & S. Grey Mountain Carpet. 67
Allerwash, at light, 31-8-88, for the first time.
Hydriomena ruberata Freyer. Ruddy Highflyer. 67
First record for Allerwash, 7-6-88, Conf. T.C.D.
Lobophora halterata Hufn. Seraphim. 67
Also first record for Allerwash, 31-5-88. Conf. T.C.D.
Phragmatobia fuliginosa L. Ruby Tiger. 67
Seen more often during daylight, this moth comes to light only sparingly. The first record forAllerwash light trap, 1-6-88.
Epirrhoe rivata Hubn. Wood Carpet. 67
A species which is rather local, the second record for the light trap at Allerwash, 15-6-88.
Ennomos erosaria D. & S. September Thorn. 67
A rare species in the North East, arrived at Allerwash, 4-9-88.
lpimorpha subtusa D. & S. The Olive. 67
A rare species anywhere in Northumberland, three specimens arrived in the Allerwash trap during 1988, or 22-8; 3-9; and 12-9.
Plagodis dolabraria L. Scorched Wing. 67
A local insect in our region, specimens were captured on 31-5-88 and 2-6-88 at light at Allerwash.
Furcula bifida Brahm. Poplar Kitten. 67
Although widely distributed, very thinly spread in the North East. A singleton on 15-6-88 at Allerwash.
Apamea epomidion Haworth. Clouded Brindle. 67
Seldom seen. one taken at Allerwash 30-6-88

Although not as forward as 1989 seems likely to be, 1988 was an early year. Of the 279 species recorded at Allerwash 70 or 25% were recorded on the earliest date since I began to keep records in 1975.

Cilix glaucata Scop. Chinese Character. 67
Two specimens taken at East Steel, Whitfield, 20-6-88.

P.L. Tennant

Apocheima pilosaria D. & S. Pale Brindled Beauty. 66
Noted for the first time at Neville's Cross, 17-2-88.
Anticlea badiata D. & S. Shoulder Stripe. 66
First record for Neville's Cross, 25-4-88.
Lampropteryx suffumata D. & S. Water Carpet. 66
As above 4-5-88.
Endrosis sarcitrella L. White-shouldered House-moth. 66
As above 15-5-88.
Hydriomena impluviata D. & S. May Highflyer. 66
As above 1-6-88.
Lacanobia thalassina Hufn. Pale-shouldered Brocade. 66
As above 3-6-88.
Furcula bifida Brahm. Poplar Kitten. 66
As above 6-6-88. Conf. Nick Cook.
Oligia latruncula D. & S. Tawny Marbled Minor. 66
As above. 8~88.
Ochropleura plecta L. Flame Shoulder. 66
As above 9-6-88.
Eupithecia subfuscata Haw. Grey Pug. 66
As above 11-6-88.
Epirrhoe altemata Mull. Common Carpet. 66
As above 14-6-88.
Electrophaes corylata Thunb. Broken-barred Carpet. 66
As above 14-6-88.
Caradrina morpheus Hufn. Mottled Rustic. 66
As above 15-6-88.
Ptilodon capucina L. Coxcomb Prominent. 66
As above 17-6-88.
Bupalus piniaria L. Bordered White. 6 6
As above 21-6-88.
Acronicta megacephala D. & S. Poplar Grey. 66
As above 21-6-88.
Apamea unanimis Hubn. Small Clouded Brindle. 66
As above 21-6-88.
Eupithecia sucenturiata L. Bordered Pug. 66
As above 22-6-88.
Hadena rivularis Fabr. Campion. 66
As above 22-6-88.
Phlogophora meticulosa L. Angle Shades. 66
As above 25-6-88.
Eupithecia pulchellata Steph. Foxglove Pug. 66
As above 27-6-88.
Thyatira batis L. Peach Blossom. 6 6
As above 30-6-88.
Perizoma affinitatum Steph. The Rivulet. 66
As above 2-7-88.
Philudoria potatona L. The Drinker. 66
As above 2-7-88.
Cabera exanthemata Scop. Common Wave. 66
As above 3-7-88.
ldaea dimidiata Hufn. Single-dotted Wave. 66
As above 6-7-88.
Xestia c-nigrum L. Setaceous Hebrew Character. 66
As above 15-7-88.
Eulithis mellinata Fabr. The Spinach. 66
As above 15-7-88.
Hada nana Hufn. The Shears. 6 6
As above 17-7-88.
Thalpophila matura Hufn. Straw Underwing. 66
As above 15-7-88.
Hylaea fasciaria L. Barred Red. 66
As above 22-7-88.
Chloroclysta citrata L. Dark Marbled Carpet. 66
As above 10-8-88.
Antitype chi L. Grey Chi. 6 6
As above 22-8-88.

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CONTENTS

SUBSCRIPTIONS WERE DUE ON 1st JANUARY, 1989
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THE AMPHIBIANS AND REPTILES OF HAMSTERLEY FOREST

B. Walker
Forestry Commission, Redford, Hamsterley, Bishop Auckland, Co. Durham, DL13 3NL.

AMPHIBIANS

Common Frog *(Rana temporaria)*

The common frog is the most widely distributed of the forest's amphibians, occurring in 10 out of 14 tetrads. It is found spawning in a range of habitats from old (pre-1860) ponds to roadside ditches and tractor ruts. It appears to be absent only from those habitats on the deeper peats.

Common Toad *(Bufo bufo)*

The common toad occurs in 7 tetrads. Spawning in large numbers presently takes place in only two ponds in the forest. The best is at the Grove (NZ066299) where C.400 were noted in a spot count in 1988. Toad spawn has also been found in some of the newer ponds, though only in small quantities. Spawn was seen in spring 1988 in an isolated pond constructed in late 1987 (NZ079317.

Palmate Newt *(Triturus helveticus)*

Recorded in 6 tetrads, this is the only newt commonly found in Hamsterley Forest. Like the Common Frog it occurs in a wide range of habitats, frequenting ponds, ditches and tractor ruts.

Common or Smooth Newt *(Triturus vulgans)*

Very uncommon, it has only been recorded in one tetrad.

Crested Newt *(Triturus cristatus)*

This species has not yet been recorded from Hamsterley Forest although it does occur in other ponds in the immediate area.

REPTILES

Common Lizard *(Lacerta vivipara)*

Common lizard has been recorded from 8 tetrads in the forest and is possibly under recorded due to its timidity and speed of retreat. It appears to do well in any sunny area, being seen in house gardens, road verges, heather rides, bracken patches and Christmas tree plots. It has been recorded from a restocked area (i.e. part of the forest that has been felled and replanted), one individual unfortunately falling into an invertebrate pitfall trap.

Slow-worm *(Anguis fragilis)*

Recorded in 6 tetrads, it seems to prefer more grassy sites and occurs with adder and common lizard on some sites. It is most frequent in the Bedburn valley along the Forest Drive and the surrounding grassland.

Adder *(Vipera berus)*

This is the most frequently seen and reported reptile in the forest. It is often seen on roads and road verges in the forest, around the edges of some picnic places (much to the dismay of some of the forest visitors!) and in the Christmas tree plots as well as many heathy

areas. The number of bites to humans (that we are aware of!) averages out at less than 1 per year. With only one exception all bites were the result of people picking adders up. A small number are killed by cars on the Forest Drive each year, sometimes deliberately. On two occasions, in winter, hibernating groups of adders have been seen by members of the Community Task Force, one in the foundations of a drystone wall and once in the ruins of an old farmhouse. The latter is particularly interesting as it is isolated from suitable active sites by a surrounding crop of Sitka Spruce and Scots Pine. Recorded in 10 tetrads.

Grass Snake *(Natrix natrix)*

The grass snake, which is extremely rare in Durham, has not been positively recorded from this area in recent years. Reports by visitors of grass snakes invariably turn out to be adders or slow-worms. Indeed both these reptiles have been brought, alive, into the Visitor Centre as grass snakes.

To ensure the future of all these species in the forest we are taking the following steps.

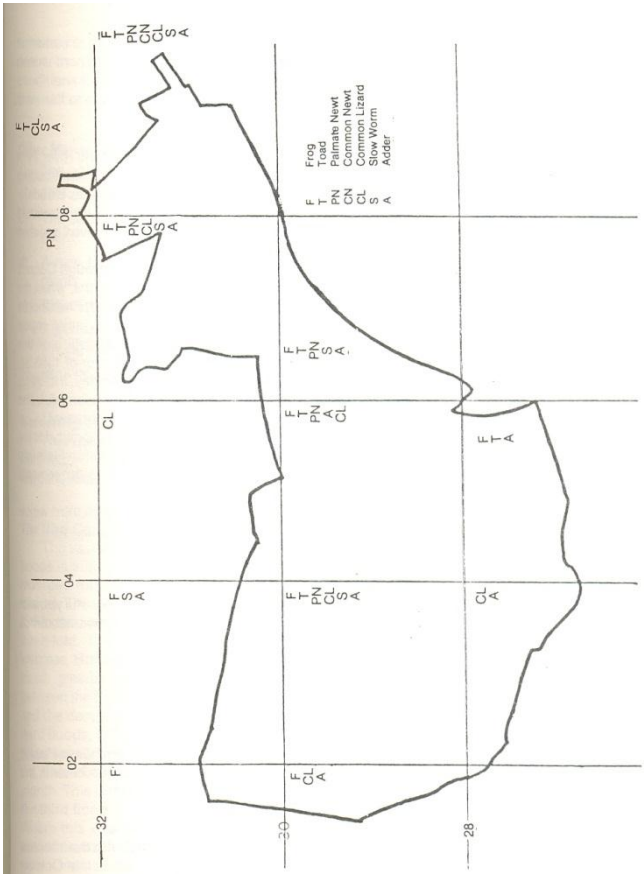
i. Dramatically increasing the number of ponds many of which are away from human disturbance. This may help reduce spawning in gutters, that dry out in summer.

ii. Improving the habitat around ponds and streams by removing excessive shade and providing bare basking areas.

iii. Protecting and maintaining reptile feeding and hibernating areas.

iv. Educating the public especially with regard to adders.

If you record amphibians and reptiles in Hamsterley Forest or any Forestry Commission woodland please let us have your records.



Distribution of reptiles and amphibians by tetrad in Hamsterley Forest

BOLDON FLATS
Progress Report Following The 3rd Winter Flood
J. Durkin
4 Woodlands Close, High Spen, Rowlands Gill, Tyne & Wear

Introduction

Boldon Flats is an area of pastureland two miles from the coast, between the River Tyne and the River Wear. Heavy clay soils and difficult drainage have resulted in regular flooding of the fields — the 1862 Ordnance Survey Map shows Boldon Flats as "Liable to Floods".

Each time that a natural flood appeared following heavy rain, a variety of birds would arrive at Boldon Flats. These often included rare or unusual species, which moved on when the flood subsided after a few days.

In 1985, local birdwatchers approached South Tyneside Metropolitan Borough Council with the idea of providing a controlled, artificial flood during the winter months, when the Flats are not grazed by cattle. Following discussions with the owners of the land, (the Church Commissioners for England and Wales) and other interested parties, an initial report "Boldon Flats: Encouraging Wildlife" was produced. The main recommendation of this report, the winter flood, gained general acceptance for a trial year in the winter of 1986/87. This proved quite successful, with Boldon Flats attracting over 500 birds per day, including numerous wading birds and waterfowl. The second winter flood was more successful, and the third flood exceeded all expectations in both quantity and types of birds present.

Currently, South Tyneside Metropolitan Borough Council and the Royal Society for the Protection of Birds are negotiating with the Church Commissioners to turn Boldon Flats into a permanent nature reserve, with regular winter floods and a variety of other improvements to the habitats and to visitor facilities. The following report details the present state of development following the third winter flood of 1988/89.

BOLDON FLATS: THE THIRD WINTER FLOOD

Summary

The third winter flood at Boldon Flats Nature Reserve was the most successful yet, with the average number of birds trebling from 500 to 1,500 per day, including many uncommon and rare species. The increase is thought to be due to three main factors:

1. After 3 years, Boldon Flats has gained a "reputation" among the birds.
2. An early start to the flood encouraged birds to stay all winter.
3. Careful management produced a flood of the optimum size and depth.

Wardening and recording was carried out by members of the Durham Bird Club. Habitat improvements continued with almost a mile of fencing and hedgerow improvements thiS winter.

Management of the Flood

The sluice was set to 18.34m, a.s.l., being raised in stages from 1.10.88, with the intention of creating a flood as soon after 1.11.88 as possible. In practice, heavy rain in late October produced a 1 acre flood on 26/27 October. This was drained, and unfortunately a long dry spell immediately ensued. The flood then started on 15th November, and reached the desired level on 20th November, when there were several days of snow. After that, the flood

remained at the desired level all winter except for early December, when heavy rain made it deeper than is desirable, and in March 1989, when the continuing low rainfall produced dryer conditions than would have been ideal. The winter was exceptional in that rainfall was less than half of normal levels, and there were no prolonged frosty spells at all.

Other Management Works

a) The northern boundary was fenced and a new hedge planted (700m),
b) The eastern boundary of the SSSI field was fenced (300m),
c) The south side of Moor Lane was re-fenced and a hedge-protection fence installed 400m,
d) A new pond was created south of Moor Lane, fenced off, and planted with aquatic plants.
e) A shelter belt was planted alongside the railway line.
f) 7 permanent notice boards and a variety of temporary notices were displayed at strategic points.
g) Routine maintenance included repairs to ditches, fences and hedges.

Wardening and Recording

This vital work was carried out by members of the Durham Bird Club. The birds present were recorded every day throughout the winter, including Christmas day. The presence of wardens ensured that disturbance by trespassers was kept to a minimum.

The Bird Counts

The vast amount of data collected by the Durham Bird Club over the 3 years of winter floods is summarised in Tables 1 and 2. Table 1 shows the total numbers of "bird-days" recorded for the three winter floods. (2 swans present for one week = 14 "bird days" for swans). The average number of birds present each day increased from 530 in the first year, to 600 in the second year, but then climbed to 1,510 in the third year, an increase of almost three-fold. The main category of wintering birds, the waders, conformed to this rate of increase. However, the gulls increased at a lesser rate (x2yg), and the waterfowl increased at a much greater rate, times 6. Over the three years, the major increase in waterfowl was between the first and second floods. This could be due to the creation of the permanent pond and the deepening of the ditches. The waders increased mainly between the second and third floods, which may be due to the improved control of water levels at the ideal level for these species.

Table 2 shows each of the main species recorded, and the **average number present** each month. This is the standard method employed by the British Trust for Ornithology. Because the third flood was the most successful, the majority of the figures refer to the third flood. Where this was not the highest figure, this is explained in the "notes" column. The peak number recorded is also given, though this figure is less reliable than the monthly averages as an indicator of the reserve's importance. The rates of increase (or, exceptionally, decrease) from the first year to the third year are also given.

Table 2 covers only those 27 species which had an average of at least one in at least one month.

Table 1 Bird Counts

	1986/87	1987/88	1988/89	Increase
Waders	44,000	46,000	126,000	x 3
Waterfowl	3,000	14,000	18,000	x 6
Gulls	33,000	30,000	83,000	x 2½
Total	80,000	90,000	227,000	x 3
Average per day	530	600	1,510	

Table 2 Species Counts (Monthly Averages)

Waders

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	Peak	Increase	Notes
Lapwing	72	390	1493	1065	351	279	7	2900	x4	
Dunlin	1	18	105	47	41	33	1	280	+10%	Peak 410 February 1987
Redshank	8	45	69	40	39	42	70	220	-20%	Average 98 December 1986 April figure 1987
Golden Plover	0	4	2	3	12	80	1	265	x16	
Curlew	6	16	16	11	10	11	7	52	x2	
Snipe	2	26	10	4	4	4	3	94	X3	
Ringed Plover	0	0	*	*	1	1	1	3	n/a	(Peak 8 February 1987)
Greenshank	1	0	0	0	0	0	1	1	n/a	
Ruff	0	0	*	*	*	0	1	1	n/a	(Peak 3 1987)
Oystercatcher	0	0	0	0	*	*	1	1	n/a	(Peak 2 1987)

Water Fowl

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	Peak	Increase	Notes
Teal	6	45	117	114	128	90	21	212	x6	
Mallard	6	5	16	12	11	7	8	26	x4	
Wigeon	3	3	4	9	14	5	1	20	x17	
Heron	2	1	4	3	4	5	1	8	x4	
Mute Swan	0	0	1	2	1	1	0	8	x6	
Pink-Footed Goose	0	0	0	0	2	0	0	24	n/a	
Whooper Swan	0	1	1	*	0	0	*	11	n/a	(Peak 1986)
Little Grebe	*	*	1	1	0	*	*	2	n/a	
Gadwall	0	1	*	0	0	1	0	2	n/a	
Shelduck	0	0	0	1	*	*	*	4	n/a	
Brent Goose	0	0	0	1	0	0	0	20	n/a	(1987)
Moorhen	*	*	*	*	*	1	*	1	n/a	

Gulls

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	Peak	Increase	Notes
Black Headed	20	259	589	592	506	480	59	1100	x3	
Common	*	22	82	88	41	53	38	270	+50%	(Peak 700 February 1987)
Herring	*	9	32	27	19	26	30	200	+50%	(Peak 430 December 1986)
Great B.B.	*	4	7	2	1	*	*	20	-50%	(Peak 500 and average 26, December 1986)
Lesser B.B.	0	0	0	0	*	2	1	5	n/a	(Peak 7 April 1987)

* = Present, but not averaging 1 each day. n/a = Not statistically significant

The Waders

The most significant of the 23 recorded species is the lapwing, with peak flocks of almost 3,000 in mid-winter, probably the largest in the county. Numbers have risen from year to year throughout 1986-1989. The flock is known to move between the coast at Whitburn and Boldon Flats, from observations of unusually coloured birds. Lapwings account for almost half of the birds recorded at Boldon Flats.

Dunlin, our smallest common wader, increased by only 10% over the three years, with peak numbers in mid-winter. Curlew numbers doubled, with a small resident flock which were seen to occasionally visit the River Wear at Timber Beach. Snipe peaked with late passage migrant birds in November, and were then present in small numbers all winter.

Two waders produced surprising results. Against the trend at Boldon Flats, redshank actually declined by 20%. There is no obvious explanation for this, since redshank are not declining in numbers nationally. The other surprise was Golden Plover, present in the usual small numbers all winter, but suddenly producing a spring peak in March. This was the best increase in numbers for any species of wader — x16. Golden Plovers winter in South Tyneside in good numbers at three traditional sites, Jarrow Slake, Monkton and Whitburn, with occasional strays from these flocks visiting Boldon Flats. The March peak, though, appears to have been not these birds using Boidon Flats, but a migration of a different sub-species of Golden Plover back to Northern Europe.

The other waders on Table 2 are also spring passage migrants, but in much smaller numbers — Ringed Plover, Greenshank, Ruff, and Oystercatcher. Greenshank also occur as autumn migrants. Other species occasionally recorded are listed below:

Bar-tailed Godwit
Black-tailed Godwit
Whimbrel
Purple Sandpiper
Wood Sandpiper
Green Sandpiper
Common Sandpiper
Grey Plover
Little Ringed Plover
Woodcock
Spotted Redshank
Knot
Turnstone

Greenshank, Whimbrel, Green Sandpiper, Wood Sandpiper and Ruff also occurred in significant numbers during July/August, on early autumn passage south.

Waterfowl

23 species were recorded, with Teal being easily the most numerous. Bolden Flats held one of the largest flocks of Teal in the county during the third flood, peaking at over 200 birds in February 1989. Herons, Wigeon, Mute Swans and the resident, breeding flock of Mallard also increased and were present all winter in small numbers. Wigeon were the star performers of the third winter flood, with an increase in numbers of x17.

Other waterfowl averaged small numbers at different times during the winter. These are given in Table 2. Even more species were present in occasional, but small, numbers:

Bewicks Swan
Grey Lag Goose
Barnacle Goose
Canada Goose
Pochard
Tufted Duck
Goldeneye
Shoveller
Pintail
Garganey
Cormorant

Gulls

Black-headed gulls are the most common of the 13 species recorded, with peak numbers of over 1,000. Common, Herring and Great Black Backed Gulls are also present throughout the winter. Gull numbers have increased, but not as much as waders and waterfowl, which is generally regarded as a good thing. Oddly, Great Black Backed Gulls have declined to less than half of original numbers over the three years.

Lesser Black Backed Gulls are present as small numbers of spring migrants in March and April. The other species recorded were:

Glaucus Gull (and hybrids with Herring Gulls)
Iceland Gull
Ring-billed Gull
Mediterranean Gull
Little Gull
Kittiwake
Common Tern
Sandwich Tern

Birds of Prey

Birds of Prey cannot usually be counted in the same way as the other species, as they are usually seen as single individuals. Occasionally, two may be seen together or individuals may be distinguished by their sex or plumage. Three species are regularly present on most days: Kestrel, Sparrowhawk and Merlin. Boldon Flats is probably a regionally significant site for wintering Merlins. The only other regular species is Long Eared Owl, which uses the hawthorns at the north of the Flats as a roost for up to 14 owls.

Other species recorded at least once were:

Hobby	Barn Owl
Goshawk	Short-eared Owl
Hen Harrier	Little Owl
Peregrine	Tawny Owl

The Significance of Boldon Plats

The North-East has two major sites for waders and waterfowl. Lindisfarne is of international importance, and Teeside is of national importance. Apart from the two sites, bird species rarely occur in nationally significant numbers elsewhere in the area. At Boldon Flats, 5 of the winter species exceed 10% of the nationally significant level, either at peak numbers, or. more importantly, at average numbers:

	Peak	**Average**
Lapwing	29%	15%
Redshank	50%	13%
Golden Plover	12%	4%
Teal	21%	12%
Whooper Swan	18%	2%

Though numbers trebled between 1986 and 1989, it can be seen that numbers could treble again without Boldon Flats reaching nationally significant levels for winterinq birds.

However, there are another 7 species which have exceeded 10% for autumn passage migrant numbers:

	Peak	**Date**
Ruff	54	August 86
Greenshank	20	July 87
Green Sandpiper	25	July 87
Wood Sandpiper	20	July 87
Curlew Sandpiper	12	September 85
Whimbrel	12	July 87
Little Stint	4	August 86

Since these migrants have not benefitted at all from active management, it seems reasonable to assume that with active encouragement they would increase considerably. These 7 species could possibly increase to nationally significant levels, hence the importance of progressing this aspect of our management of Boldon Flats.

By comparison with other North East sites, Boldon Flats does quite well. The eleven species present at the 10% level can be used as a yardstick for comparison, in which case four other sites are broadly similar. St Mary's Island, at Whitley Bay, does slightly better than Boldon Flats. The Mid-Northumberland Coast and the Marsden — Whitburn Coast are roughly similar to Boldon Flats, and Jarrow Slake is not quite as good. Hence, Boldon Flats is one of the top 6 sites in the North-East for wintering waders and waterfowl, and may well become the third best site if the present improvements continue. Boldon Flats in 1989 could best be described as being of **major regional importance.**

The 1989/90 Flood

Several minor improvements have been planned for the fourth winter flood. The most significant of these is to bring the timing of the flood forward by 15 days, from mid-October to mid-March. The main effect that this is intended to have is to produce an early flood so that birds are encouraged to settle at Boldon Flats when they first arrive in the autumn. The effect at the other end of the flood is that the frog spawning should take place in permanent water instead of in the temporary flood, leading to better survival of the tadpoles. Spring and Autumn migrant birds will also be affected. Spring migrant waders should not be affected adversely, as the fields will still be damp after the flood has been drained. Waterfowl and the Lesser Black Backed Gulls will, however, be reduced in numbers. Autumn migrants which should increase include Snipe, Spotted Redshank, Greenshank and another eight species which are more than twice as numerous in October than they are in November.

The other physical change to the flood is to increase the depth of the flood by 2cms, which should give us the maximum length of shore-line per area of flood. The weir setting would then be 18.36m a.s.l.

While it is extremely difficult to estimate likely numbers of birds for the fourth winter flood, a reasonable "guesstimate" would be for an increase to an average number of 2,000 birds per day, with peak days of perhaps 5,000 birds.

ADDITIONAL RECORDS FOR THE DURHAM FLORA

G.G. Graham and D.E. McCutcheon
3 The Willows, Bishop Auckland, Co. Durham and Normans Riding Poultry Farm, Winlaton, Tyne & Wear.

'Flora' and Vegetation', as normally understood, are static terms. Like photographs their subject content appertains to specific moments in time. Biology and biological subjects on the other hand are dynamic, change is of the essence of their nature.

As a biological record therefore a Flora must be related to time. Indeed, unlike a snapshot a Flora is not really static, it is the reflection of a period of time — changes have taken place even whilst the document was being compiled and written.

So the revision of a local Flora must begin as soon as it is published. Those who monitor changes in the plants of countries or regions have recently become vociferous in their warnings that change is no longer gradual but is accelerating at a greater pace every year. There have, so we are told, been more changes in the last 30 years than in the whole of the preceding 150 years.

The conclusion is that each county should begin to monitor its rarer plants (in all groups) and to take stock of its uncommon species.

During the past year Mr. D.E. McCutcheon and I have been studying the lichen flora of several sites where preference had to be given to vascular plants during the compilation of the Durham Flora. We hope to publish our findings from time to time.

The Teesbank woodlands occupied a great deal of our time and proved most interesting. It is now well known that lichens are very sensitive to atmospheric pollution and this was most apparent as one moved westwards from Darlington to Eggleston along a line of decreasing pollution. Local pockets of shelter were also apparent in certain parts of the Tees gorge. Scarcely half a dozen corticolous species could be found below Piercebridge but the woods below Eggleston supported over 100 species. Sadly the loss of our native elms, which finally succumbed to Dutch Elm Disease, has meant the depletion and even the extinction of some of our rarest lichens.

Bryophytes fare somewhat better, as the damp shaded limestone rocks of the Tees Gorge counteract the effects of pollution and no serious losses have yet been discerned. Bryophytes will however be the subject of a further article.

The following records were all made after the publication of the Flora, all are from v.c.66 and all have been verified or checked. All new vice-county records have been determined or confirmed by Dr. B.J. Coppins. Both Dr. O.L. Gilbert and Dr. Coppins have commented on several difficult species; we are grateful to them.

Flora writers know the frustration of having to check or reject incorrect records that have appeared in print. So we have tried always to employ the maxim adopted in the Flora "when in doubt leave out"

LICHEN RECORDS

Acarospora fuscata (Nyl.) Arnold. Worked sandstone, Winston Bridge; acidic rocks Westernhope; Feldon Burn; Nookton Burn; Langdon Fell.
Acrocordia conoidea (Fr.) Korber. Limestone rocks near Whorlton.
Anaotychia ciliaris (L.) Korber. Walls. Scatter Hill Westgate

Arthonia punctiformis Ach Small branches of trees, Teesbank Woods above Barnard Castle.
Arthonia radiata Ach. Smooth bark esp. Corylus, riverside woods, Winston; Whorlton; Barnard Castle; Nookton & Westernhope Burns.
Aspicilia calcarea (L.) Mudd. Limestone rocks, Westernhope and Nookton Burns.
Aspicilia contorta (Hoffm.) Krempelh. Limestone, Westernhope Burn.
Bacidia naegelii (Hepp.) Zahibr. Shaded old Populus in woods above Whorlton, det. Coppins; shaded trees, Gainford Spa; Graft's Farm below Whorlton; Westernhope Burn.
Bacidia rubella (Hoffm.) Massal. Sycamore, Shipley Wood.
Bacidia sabuletorum (Schreber) Lettau. Mossy tree boles, Great Wood; Westernhope Burn.
Belonia nidarosiensis (Kindt) P.M. Jorg & Vezda. Soil pockets in limestone rocks, Whorlton Banks.
Buellia griseovirens (Turn. & Borr. ex Sm.) Aimb. Oak gates and bark, Sledwick Hall; West Tees Bridge; Whorlton; Teesbank Plantation.
Caloplaca cerina (Ehrh. ex Hedw.) Th. Fr. Elm, Stanhope Bank; Westernhope.
Caloplaca obscurella (Lahm) Th. Fr. Shaded old Populus in woodland south of Sledwick Hall, det Coppins.
Chaenotheca ferruginea (Turner ex Sm.) Mig. Sparse, but on trees in the Teesbank woodland all the way from Winston to Whorlton and above.
Cladonia digitata (L.) Hoffm. Humus and tree bases, Teesbank woods beyond Barnard Castle; humus on rocks, Feldon Burn.
Coelocaulon muricatum (Ach.) Laundon. Peat, Edmundbyers & Langdon Fell.
Dermatocarpon miniatum (L.) Mann. Soil pockets in rocks, Falcon Glints.
Diploschistes scruposus (Schreber). Norman. Woods, Sledwick Hall.
Fuscidea kochiana (Hepp.) V. Wirth & Vezda. Sandstone rocks, Langdon Fell.
Graphis elegans (Borrer ex Sm.) Ach. Teesbank woods, Barnard Castle.
Graphis scripta (L.) Ach. Smooth bark, Whorlton; Teesbank Plantation.
Huilia tuberculosa (Sm.) P. James. The commonest species in this genus, acidic rocks everywhere. Winston; Whorlton; Langdon Common; Nookton & Feldon Burns.
Lecanactis abietina (Ach.) Korber. On rough barked trees, Whorlton, Barnard Castle.
Lecanora carpinea (L.) Vainio. Elm, Westernhope Burn; ash above Stanhope.
Lepraria membranacea auct. Dry shaded calcareous rocks, Teesbank Plantation; Whorlton Banks; Barnard Castle; Shipley Wood.
Leproplaca chrysodeta (Vainio ex Rasanen) Laundon. Crevices in dry calcareous rocks, below Barnard Castle.
Leproplaca xantholyta (Nyl.) Hue. Growing with the preceding species.
Micarea sylvicola (Flotow) Vezda & V. Wirth. Dying elm, Crawley Bank, Stanhope.
Opegrapha atra Pers. Corticolous, Westernhope; Whorlton.
Opegrapha vermicellifera (Kunze) Laundon. Shaded Trees, Teesbank Plantation, Barnard Castle.
Parmelia incurva (Pers.) Fr. Sandstone rock, Langdon Fell; Feldon Burn.
Parmelia omphalodes (L.) Ach. Acidic rocks, Thomhope Moor; Langdon Fell.
Pertusaria leioplaca D.C. Smooth barked trees, Bumhope & Nookton Burns; Teesbank woods above & below Barnard Castle.
Physcia aipolia (Ehrh. ex Humb.) Furnrohr. Dying elm, above Stanhope.
Physconia enteroxantha (Nyl.) Poelt. The commonest of this segregate in the North East, Westernhope Burn; Crawleyside Bank.
Polysporina simplex (Davies) Vezda. Sandstone wall near Baal Hill House.
Porina aenea (Wallr.) Zahibr. On hazel in most of the Teesbank Woods.

Pyrrhospora quemea (Dickson) Korber. On smooth bark, Sledwick Hall; West Tees Bridge; Whorlton; Westernhope; Bumhope; Teesbank Plantation.
Sphaerophorus fragilis (L.) Pers. Rocks, Feldon Burn.
Sphaerophorus globosus (Huds.) Vainio. Rocks, Feldon Burn.
Umbilicaria polyphylla (L.) Baumg. Acidic moorland rocks, Langdon Fell; Feldon Burn.
Umbilicaria polyrrhiza (L.) Fr. Sandstone rocks, Feldon Burn.
Verrucaria aquatilis Mudd. Periodically submerged rocks, Low Carlbury; Gainford Spa; Sledwick Hall.
Verrucaria muralis Ach... Above Winston; Thomhope Moor.
Xanthoria candelaria (L.) Th. Fr. Rough bark and decorticated wood, Winston; West Tees Bridge; Whorlton, Barnard Castle, Westernhope, Thomhope.

REFERENCES

Graham, G.G. (1988) **The Flora and Vegetation of County Durham.**
Hawksworth, D.L, James, P.W. & Coppins, B.J. (1980) **Check-list of British lichen-forming, llchenicolous and allied Fungi.**
(a few recent name changes have been listed bv Laundon in the pages of **The Lichenologist).**

FERNS ON WALLS IN HARTLEPOOL 1988

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Introduction

During the past year two surveys have been carried out on the ferns on walls in the built up area of Hartlepool. The first was to find out if any ferns grew on the walls. Once this had been established then a second, more detailed survey was carried out. The following account describes the two surveys and their results.

First Survey

No complete record of ferns growing in Hartlepool could be found in the published literature. When this survey was started Graham: Flora and Vegetation of Durham (1988) had not been published. It was, therefore, necessary to determine which species of ferns occurred and in what abundance. This part of the survey was done by quickly walking along the streets noting the location and species found. Not all streets were visited because preliminary research had revealed that plants do not grow on new walls. So new streets and those in the process of redevelopment, open plan estates with no boundary walls, and new estates constructed during the last 15-20 years were ignored.

There has also been a change in industrial buildings. Many older structures have been demolished and the sites cleared rapidly. Older areas were, however, looked at to see if any species grew there.

Four species were found during this survey, Harts Tongue Fern, *Asplenium scolopendrium* L.; Wall Rue, *Asplenium ruta-muraria* L.;, Maidenhair Spleenwort, *Asplenium trichomanes* L; and one which could only be named as a species of *Dryopteris,* but whose specific identity could not be determined because of the immaturity of all specimens. From the little evidence available they could be *Dryopteris dilatata* (Hoffm) A. Gray or *Dryopteris felix-mas* (L) Schott, or a mixture of both. They will subsequently be referred to as *'Dryopteris* sp.'

Asplenium scolopendrium (L.) Harts Tongue Fern

It occurs in a wide range of natural habitats, rocky woodlands, stream banks, hedge banks, lane banks, damp shaded stonework and cliff sides and around cave mouths. It is colonising man-made structures such as mining adits. The plants require permanently moist sites, high local humidity, good shelter and shade and thrives in a high ph, it occurs with other ferns and flowering plants. It would appear that it only grows in old brickwork if shaded, has permanent high humidity plus some seepage of water, needs a long growing season and shelter from drying winds. In spite of this long list of requirements, Page (1982) notes that it is frequently seen on retaining walls.

There is variation in frond size, shape and length of lamina, breadth of frond, acuteness of apex, undulation of margin and length of stripe.

This was the most common fern to be found on Hartlepool's walls. Graham (1988) states that it has disappeared from several natural habitats during the present century but has spread to many man made sites. It grows in the deep denes in east Durham as it favours limestone areas. There are records for Hartlepool but not in the numbers found in this survey.

Asplenium ruta-muraria L. Wall Rue.

This is a strong calcicolous species, in natural situations confined to steep faces of lime rich rocks, widespread and abundant in lime rich mortar of old walls, seen in old country churchyards, rural railway bridges and viaducts and walls of old walled gardens.

It is a fast growing but rather short lived species, but it can re-establish itself as it has an abundant spore production (Page 1982).

In Durham it is found frequently on walls, bridges and old buildings mainly in the west. Graham (1988) shows no dots in the tetrads covered by Hartlepool.

Asplenium trichomanes (A. Melancaulon). Maidenhair Spleenwort.

Freethy (1987) gives it the name *Asplenium trichomanes* agg. and recognises two sub-species, *trichomanes* and *quadrivalens.* Graham (1988) states that only subspecies *quadrivalens* is found in Durham.

Asplenium trichomanessubsp. quadrivalens is the most common of the two subspecies anywhere. It occurs naturally in fissures of lime rich rocks, at low to moderate elevations, frequently seen in mortar of old walls especially on churches, old wells, walled gardens, disused railway stations, bridges, viaducts, abbey ruins, disused industrial workings and occurs as almost pure stands on walls but sometimes with other vascular plants and ferns.

No identification of the subspecies was made so to be fair the other subspecies, *trichomanes,* has been included. It is less common and seen on hard, volcanic or metamorphic rocks where it grows from tissues and spreads on to wall mortar only very locally where walls are sheltered and rainfall is frequent. It is more delicate than *quadrivalens* and sensitive to drying out.

The majority of the records in Graham's Flora are to the west of the county, but there is one forthe town. It mainly occurs on mortar on old buildings and this is where it is seen in the town.

Dryopteris sp.

Dryopteris was the most difficult to identify because of its small stature. The species noted in the Hartlepool tetrads by Graham (1988) are *D. felix-mas* (L*)* Schott (Male Fern) and *D. dilatata* (Hoffm) A. Gray, (Broad Buckler Fern).

THE SECOND SURVEY

Once it had been established that a number of ferns were involved more detailed work followed. Although Darlington's "Ecology of Walls" had been consulted it was felt that a

simpler way of recording was needed. The final details chosen were species, height of wall, aspect, type of wall and the species location on the wall.

The areas containing older housing stock in the central area of the town were the best areas. Most occurred on freestanding walls, with a few occurring on house walls and retaining walls. Only one was noted on a garage wall which was part of the house, and another was in a drain below ground level. The main locality was the block of streets between Hart Lane and Park Road.

Few ferns grew in the older headland area but this part of the town has been rebuilt over the past thirty years and is subject to stiff onshore winds for most of the year. The ferns occurred below the 100ft. contour in the central, more sheltered part of the town.

Distribution in Streets

There was much variation in each street. Linden Grove had at least 100 walls (side and front) but only a few grew ferns. A front and side wall was the home of many Harts Tongue plants but the rest were either individual specimens or small groups. In Rosedale Avenue plants grew on the north side but there were none on the south side of the road. The street was orientated east/west but the walls in shelter (west side) had no plants. Those on the south side and and facing south had many Harts Tongue plants. More were seen on the inside of the walls of these properties and on the eastern side of each block than on the west.

Type of walls

The majority of walls with ferns were of red brick together with a few in stone. Only two records were from white brick walls but these have since been demolished. The species were Harts Tongue and Wall Rue and they were on the north side.

Angle of walls

No measurement of any kind was made. There were many walls standing at slight angles but these did not have ferns growing on them except for one in Clifton Avenue with Harts Tongue.

Condition of Walls

All the brick walls were in a good state of repair. There were no obvious breaks or cracks in the brick. The ferns grew in the mortar joints between the bricks, mostly in the horizontal layers but a few inhabited the vertical joints.

Height of walls

Again for ease of recording, two heights were listed, above 1 metre and below 1 metre. The majority of ferns were in the section up to 1 metre high. The ferns grew in two distinct areas, the top few layers and the lowest layer near the ground. Some exceptions were encountered such as in the middle of a wall near a leaky overflow system. At the rear of a shop in Raby Road, where rainwater fell on a corrugated roof, a large number of Harts Tongue (at least 61), several Maidenhair Spleenworts (13) and one *Dryopteris* sp. had established themselves. Most of these grew in the top five layers of mortar but the lowest Harts Tongue was found in the 15th layer whilst the lowest Maidenhair Spleenwort was in the 10th layer.

Thickness of walls

Most were two bricks wide. Good growth of ferns did occur in single brick walls but only

where heavy shade was provided by larger buildings or taller plants growing nearby. The widest masonry was seen in gateposts, those containing ferns being quite sound. In one street with 8 gateposts looking the same in height, shape and type of brick, five supported ferns (Harts Tongue). Only one plant grew on a south face, the rest being on the east and west sides. In Glendale Avenue three gateposts had ferns but none were growing on the west sides (nearest the road). There were plants on each of the other three sides.

Aspect

Ferns were found in all aspects, i.e. facing north, south, east and west. The plants showing most healthy growth grew in shaded areas.

Numbers

This varied a great deal. The example in Raby Road which possessed 73 plants has already been mentioned. The next had 53 plants all of which grew in the top three layers. The owner of this South Drive dwelling said she had pulled out many plants over the year. In Rosedale Avenue one wall had 20 Harts Tongue plants in the first layer, ten in the second, six in the third, four in the fourth and one in the fifth. The lower five levels had no ferns. Another wall in Glendale Avenue had both Harts Tongue and Wall Rue plants in the top layer and none at lower levels.

Effects of coping

The tops of many walls had bricks set on edge but several others were finished with some kind of coping e.g. special bricks, stone or slate. Most were untreated but some had been painted or rendered. No wall examined with a fresh treatment had ferns near the coping, although one rounded coping top with paint on it had several plants growing in the brick wall underneath which had not been treated. One of the best walls for Harts Tongue and Wall Rue had a brick coping with an underlying brick tile acting as a damp proof layer to the wall. The plants were all above this tile. It was also slightly shaded by *Ribes sangumeum.*

Only one wall with privet growing against it had ferns. Most walls with privet failed to support ferns because the shrub kept the wall dry. In the case of one wall, the owner said that it had been shaded by tall trees in the 1930's, but ferns appeared when these had been removed and the wall became damp.

Association with other plants

In most cases the ferns were the first colonisers. Harts Tongue was the most common species and in many instances was the only plant on the wall. Of the records for Maidenhair Spleenwort only one had other plants with it, these being Harts Tongue and a single *Dryopteris.* In nocasedidallfourspeciesoccurtogether.Therewereotherplantswiththem such as *Sagina procumbens, Meconopsis cambrica* and *Crassula* sp. but there was no species common to all walls. One street had *Asarum procumbens* in the walls but no ferns.

Size of colonies (a) Harts Tongue

In many instances these were well spaced out but they did also occur in large groups. At 16 South Drive 53 plants were counted in a five metre stretch. This included several plants grouped together but only counted as one for ease of recording. On the west side of a wall in Raby Road 61 plants were noted. Smaller groups of about a dozen plants were seen on several occasions.

(b) Wall Rue

These occurred individually or in larger groups but not in the same numbers as with Harts Tongue. Groups of up to 15 were recorded in Glendale Avenue but it was not the tight grouping seen in Harts Tongue, a more spread out arrangement being favoured. Other walls had only half a dozen plants.

(c) Maidenhair Spleenwort

This species was difficult to count. Single specimens possessed several growing tips and groups were complete masses of plants. The largest numbers were seen on the west side of a wall in Raby Road. Similar numbers were seen in Elm Grove (two different houses) and Grange Avenue/Grange Road. The other records were for single numbers.

(d) Dryoptens sp.

These usually occurred in small numbers and did not form groups like the other species. The largest numbers occurred on retaining walls such as the basement wall at the Grand Hotel.

Size of plants

It was only in the larger growing species such as Harts Tongue and *Dryopterissp.* that a size difference was noticed. Freethy states that Harts Tongue in a woodland situation can grow up to 90cm. On walls this is considerably smaller, the largest being 30cm. Many were about 15cm with some as small as 2.0cm.

Wall Rue and Maidenhair Spleenwort seemed to be in sizes stated in the flora.

The majority of the Harts Tongue plants had just one frond with another one appearing. Very few had more than four fronds.

Conclusions

The surveys have revealed four species of ferns growing on the walls of the older parts of Hartlepool. Their source of origin is unknown but they have become well established during recent times in several parts of the town. The reason for this is probably due to many factors such as the Clean Air Acts, but there are a number of questions still unanswered. Page (1988) associates the local abundance in the north east as being closely connected with the zone of highest frequency of the landward drift of cold, damp, summer sea-fogs but there is scope for further research, for example the rate of spread, the microclimatic conditions and the composition of the walls. In his latest book he states that wall tops acquire debris and can then support ferns if nutrients, light and water are available. Shelter and humidity are important physical factors for establishment. Other suggestions influencing the colonisation of walls include age and acid rainfall.

In the meantime it is hoped that this paper gives an impetus for further work. At present it serves merely as a baseline for Hartlepool.

References

Clapham, Tutin and Moore; Flora of the British Isles; 1987.
Freethy; British Ferns; 1987.
Graham; Flora and Vegetation of Durham; 1988.
Darlington; Ecology of Walls.
Page; The Ferns of Britain and Ireland; University Press; 1982.
Page; Ferns; The New Naturalist; 1988.

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THE VASCULUM

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BY THE WAY

Secretaries of societies and other contributors to the Vasculum should send their notes to the Editor before 15th March 1990.

DEVELOPERS

This name is not used in the sense of the more usual one of "builders", but to indicate more extensive changes in the countryside by more thrusting entrepreneurs. In many cases good agricultural 'greenfield' sites are their targets. The fact that they are sterilizing large areas of good wildlife habitats does not seem to worry them as long as they can make a fast profit. Even where housing is the aim, the modern selling description is for the provision of "executive housing", whatever that may mean, and those who must keep up with the Jones's are ready victims.

Recently we have become aware of three very large development proposals, two in Durham City at the Allotments and at Aykiey Heads, and more recently a huge one at Chester-le-Street Riverside Recreation area. The last one not only involves a number of open fields used already for recreation but a further six or seven arable fields, making a total of about 125 acres (50 hectares). All of this is to be for a new Durham County Cricket stadium, associated sports and recreation facilities, car parking for some thousands of cars, a hotel, business centre and, of course, executive housing.

As it stands at the moment, about one third of the area is an open field space for amateur sport and recreation. The citizens of Chester-le-Street use it to walk, away from road traffic, and enjoy a breath of fresh air. It is to Chester-le-Street as the Town Moor is to Newcastle, a public asset which the people are proud of and very anxious to retain.

Apart from the destruction of an open space the development will destroy the wildlife associated with fields, hedgerows, a few trees and a wildlife garden. If the river banks are tampered with in order to control periodic flooding, a high quality wildlife corridor will be

destroyed. Members will have read in past numbers of the Vasculum, the long list of plants and animals that have been recorded there. In addition, the extermination of the plants under buildings, concrete and cinders (i.e. the all-weather nursery area) will go towards aggravating the global warming up process (the greenhouse effect) by suppressing the taking up of carbon dioxide from the atmosphere. Is it not rather sinister that this can go on in our own country, whilst Brazilians, Indonesians and other third world countries are berated for destroying rain forests? There is no difference whatever in the end products, and we are sure that British people would not wish to be excused as a special case in this respect. On the contrary, we ought to be setting an example to the rest of the world.

THE CONTENT OF THE VASCULUM

Recently there has been some criticism by a member, concerning the imbalance of the notes published in this journal. The Editor would agree that for some time there has been a shortage of notes on flowering plants. It must be said however, that it is the members who write about the wildlife topics that appear in these pages. Over the years there has been a noticeable falling off of contributions from the botanists. The reduction in botanical copy is not, however, due to a shortage of botanists in the membership but that they seem to be more reluctant to put pen to paper than the entomologists, cecidologists, ornithologists, etc. So come on you botanists, let it not be said that you are less capable than these other wildlife enthusiasts. Whilst on this topic of notes for publication, may we repeat that the Vasculum has always found a place for reporting the activities of the constituent societies. Few secretaries take advantage of this. We know that associate members would be most interested to read about the activities of their own and other similar organisations. The facilities are here. Why not use them?

THE LONG HOT SUMMER

In the July edition of this journal it was noted that the warm winter and fine spring were already causing unusual appearances in the countryside. Early flowering was a common sight and many mammals and insects changed their patterns of hibernation.

Unusually, the fine open weather continued throughout the rest of the summer and autumn resulting in the figures for sunshine and low rainfall breaking all records. The effects on the plants and animals have been beneficial in some instances but disastrous in others. The continued drought dried up some habitats so completely as to produce semi-desert conditions and flowering plants in particular completed their life cycles quickly then died back leaving a brown, dried out countryside. This was most evident in the well drained hill pastures where the growth of grass failed making hand feeding necessary for cattle. The wild animals resorted to travelling long distances in search of a meal. As a result we saw larger numbers of carcases on the roads, knocked out by the traffic during their frantic searches., On the other hand this was an insect year to be remembered. Numbers of common species were enormous. Butterflies had a very good year as did the biting midges and bracken flies. The Yellow Underwing moth (*Noctua pronuba* L.) was more abundant than we have ever known and since its caterpillar is the most common of the cut-worms, a warning to all gardeners to look out for bitten off seedlings next spring is timely.

Ponds and small streams dried up completely and even large reservoirs like those at Cow Green and Derwent have never been so low. We were amazed to see the emergence of the old road and bridge across the Derwent valley which had been submerged since the reservoir first filled. At the Blanchland end the nature reserve dried out completely, became

vegetated over and was put to use as a sheep pasture by an enterprising farmer. Foresters and moorland gamekeepers must have had an anxious time about the possibility of fires and the worst did happen in parts of North Northumberland. We are unlikely to see such conditions again for some time unless the greenhouse effect descends upon us with greater speed than the scientists predict.

SUBSCRIPTIONS

We wish to remind members that subscriptions to the N.N.U. have had to be increased as from January 1st 1990 in order to keep up with the ever rising costs. The new rates are as follows:-

Ordinary members £5.00

Family membership £6.00

Junior members, under 17 years of age or whilst receiving full-time education £2.50

Affiliation fees for senior societies £6.00 for membership up to 50

£7.00 for membership between 51 & 100

£8.00 for membership between 101 & 150

£9.00 for membership over 151

Affiliation fees for Junior Societies including school groups £5.00

Institutions, Libraries etc. £6.00

If you pay by banker's order please remember to have it altered and do try to send your correct subscription to the Hon. Treasurer as soon as possible after (or before) January 1st. Additional gifts over and above the appropriate subscription will bemost welcome.

THE SOCIETIES

NORTHERN NATURALISTS' UNION

The 185th Field Meeting was held at Blackhall Rocks on the Durham Coast on July 8th 1989, leader Russell McAndrew.

The morning had been very wet, a most unusual occurrance in this hot summer, but it faired up in the afternoon although it remained dull. The vegetation was very wet which hampered our search of the cliff hollows to some extent. In spite of this we were pleased to see the Rock Rose *(Helianthemum chamaecystis* Mill.), Saw-wort *(Serratula tinctoria* L), Yellow Flags *(Iris pseudacorus* L.), Bloody Cranesbill *(Geranium sangiuneum).* Common Agrimony (*Agrimonia eupatoria* L.), Hemp Agrimony (*Eupatorium cannabinum* L.), Round- leaved Wintergreen *(Pyrola rotundifolia* L.), the Great Reed *(Phragmites communisJnn.),* Common Spotted Orchid *(Dactylorchis fuchsii* (Druce) Vermeui), and Fragrant Orchid (*Gymnadenia conopsea* (L.) R.Br.) to mention a few of the more striking species.

The lepidopterists worked hard in their attempts to flush out specimens hiding away in the lush vegetation. Butterflies were virtually completely absent although Michael Mann was able to demonstrate the presence of the Durham Argus butterfly by finding several eggs of that species on the leaves of the rock rose. A few microlepidoptera were found by diligent searching at the base of the plants. Examples were *Agapeta hamana,* L, *Elachista argentella* Cl., *Udea lutealis* D. & S. *Olethreutes lacunana* D. & S., *Eupoecilia angustana* Hb., *Agriphila straminella* D. & S., and *Aphelia paleana* Hb. Both Burnet moths, *Zygaena lonicerae Schev.* and *Zygaena filipendulae* L. were in some numbers, sitting about on the thistle and knapweed flowers.

Approximately 20 very enthusiastic members enjoyed this very varied and interesting meeting in spite of the dull afternoon.

The 186th Field Meeting was held in Rosa Shafto Nature Reserve on 9th September, by kind permission of the Durham Wildlife Trust. Between 30 and 40 members gathered at one of the entrances to the reserve which is situated to the north west of Spennymoor leased from Shafto Estates. The leader, Maurice Cowley, guided us along a maze of paths through mixed woodland with a variety of habitats ranging from dense conifer through deciduous sections to grassy glades. Many interesting and colourful plants were seen and although the reserve is reputed to be the home of many birds, few were seen on the day partly due to the time of year when many of the migrants had already left.

Dennis Hall led one section to look at the plants and fungi. Of these, the more attractive species found near the River Wear, were Creeping Yellow-cress *(Rorippa sylvestris),* Bur- reed *(Sparganium erectum),* Burdock (*Arctium minus).* Reed Canary Grass *(Phalari's aruncfinacea),* the white flowered form of Himalayan Balsam (*Impatiens glandulifera),* a Hawkweed (*Hieracium vagum),* Common Cow-wheat (*Melampyrum pratense),* Bird Cherry *{Prunus padus),* Guelder Rose (*Viburnum opulus)* and the Wood Horsetail (*Equisetum sylvaticum).*

At the same time he was called upon to identify the abundant crop of fungi. Many of these were taken away for further investigation and the final list comprised:-

Agaricus campestris near the river, *Laccaria laccata, Collybia confluens* forming a good fairy ring, *Coprinus truncorum, Hygrophoropsis aurantiaca,* the false chanterelle, *Lactarius pyrogalus, Lactarius subdulcis, Entoloma rhodopolium, Psathyrella multipedata, Pleurotus cornucopiae, Boletus scabera* superb specimen, and on trees *Trametes gibbosa, Fistulina hepatica* the beefsteak fungus on oak, *Piptoporus betulinus* the birch polypore, and *Rhytisma acerina* the tar spot fungus on sycamore (extremely abundant everywhere this year).

A group of seedling poplars proved to be somewhat of a puzzle, being new to all present. It was eventually identified by reference to the literature as *Populus euramericana* form *"regenerata",* the Railway Poplar.

The entomologists worked as another group with Dr. Lewis Davies and Tom Dunn. At this time of the year leaf mines caused by Microlepidoptera and Agromyzid Diptera were much in evidence. Altogether some 16 species of *Stigmella* were found together with *Heliozela sericeella* on oak and *Lyonetia clerkella* on birch, apple and bird cherry. In addition adult specimens of *Argyresthia brockeella* and *Epermenia chaerophyllella* were seen, the latter species being only the second modern record for Durham County.

The 187th Field Meeting was held at the Dove Marine Laboratory, Cullercoats on 21st October 1989 when we were hosted by the President, Mr. Peter Davis.

Some 40 or 50 members and friends arrived at the laboratory, so many that the seating capacity of the lecture room was rather stretched. The President gave a short talk with projected slides on the history of the Dove Marine from 1908 when it was built. Wilfred H. Huddleston was the benefactor who conceived the idea of a special building for research in marine biology and he provided the bulk of the finance that helped to build it in memory of his ancestress Eleanor Dove. Now part of the Department of Biological Sciences, University of Newcastle upon Tyne it is known both nationally and internationally for its marine research. The possession of a trawler type research vessel became a necessity early in the building's history and this continues today except that the original vessel has long since retired and another operates in its place.

The second part of the visit was to look at the live specimens being studied at the moment. The aquarium section contained much of interest. Lobsters, crabs, star-fish and several molluscs such as large whelks were lifted out of the tanks to illustrate anatomical

structure and describe life histories to the members. A large amount of the research at present in progress is on various species of marine worms and these were seen in a series of tanks. There were rag-worms, lug-worms etc. under investigation. Because the number of members was so large, two groups had to be formed to see the animals and by the time everyone had seen everything the afternoon had passed. It was then too late to search for further specimens on the Cullercoats rocks. Our thanks to Peter Davis for a most satisfying and instructive meeting.

The 22nd Heslop Harrison Memorial Lecture was held on 4th November in the Museum and Art Gallery, Borough Road, Sunderland by kind invitation of Sunderland Natural History Society and the Director of Museums and Art Galleries. After a warm welcome from the President of Sunderland Natural History Society, there followed a very short business meeting, the minutes of the previous Heslop Harrison Meeting being taken as read.

The Speaker, Mr. Neville Turner, began by recounting his passion for photographing various wildlife subjects, in particular those in Teesdale where his veterinary work took him nearly every day. He then presented some of his studies made during the past few years.

First of all was a series of slides depicting the full life history and habits of that tiny moth *Yponomeuta evonymella*, whose caterpillars are frequently seen in large silken bags on the branches of bird cherry (*Prunus padus).* Quite often, in years of great abundance, the trees are completely defoliated, the bark and skeletonised branches being entirely covered with a huge silk stocking. The following pictures of the breaking up of the silk, the formation of the pupae and subsequent emergence of the moth, mating then egg-laying, whilst the tree sprouted new leaves, was a most valuable scientific record. This was followed by a similar presentation of the life-history of the red grouse, with remarkable winter pictures showing its difficulties of surviving on the high heather moors at this time of the year.

A third presentation was a mixture of several Teesdale mammals and birds, each photograph illustrating some interesting aspect of their everyday activities.

Finally, some beautiful sequences of the mute swan, accompanied by very appropriate music, brought tears of emotional pleasure to many eyes.

After questions, Tom Dunn gave a short vote of thanks, emphasising how the scientific aspect of natural history investigations could be carried through by careful observation and accurate photography.

Tea was provided by the ladies of the host society, whilst some members browsed over the exhibits and bought Wildlife Trust goods from Mrs. Thompson. At the same time an impromptu soire developed round Mr. Turner who continued to be bombarded with further questions.

NOTES AND RECORDS

NOTES

Yellow Bartsia in Tyne and Wear (VC 66). During a conversation with Andrew Donnison, I learnt that he had found specimens of Yellow Bartsia, *Parenthucellia viscosa* (L.) Carmel, in one part of Washington Wildfowl and Wetlands Park and that it had been confirmed by Rev. G.G. Graham. Since this was new to me I visited the park on July 24th 1989 and with Andrew's help found that it was in quite reasonable numbers on one grassy bank overlooking one of the open pools where many of the wild birds fly in each day for a free feed. Apparently passage migrants use it as a temporary resting place during times of movement. Clapham, Tutin and Warburg gives the distribution of Yellow Bartsia as 'native in damp grassy places near the south and west coats', recently found in Norfolk and some inland counties at about the same latitude.

The plant is an annual and there is little doubt that it has arrived in Washington as seeds on bird's feet. Since these seeds are very tiny but quite smooth it is most probable that they have been transported embedded in caked mud on the feet of waders.

It will be interesting to see if it can become permanently established in the Wildfowl Park.

T.C.D.

Rare plants in Dariington. During the past year three interesting plants have turned up within the confines of Darlington.

The first was spotted early in the year by Dave Green who found a large patch of *Selaginella kraussiana* (Kunze) A.Br. growing in the west cemetery. This was a first record for County Durham.

Later in the year, Dave Green and myself saw *Orobranche minor* Sm. Lesser Broomrape, growing on clover, on the disused sidings at Faverdale, Darlington. It is now an extremely rare plant in the county. The only other recent record was made in 1973, and that record was in the north of the county many miles away from here.

In October, Dave Green also spotted *Digitaria sanguinalis* (L.) Scop. Crab-grass, growing at the foot of a wall in Abbey Road, Darlington. This has not been seen in the County since 1805.

Gordon Graham has seen all three plants.

Hazel Peacock

Unusual autumn moth records. In the light of 15 years experience of running a moth trap at Allerwash in the Tyne Valley the following observations are unusual and can only be the consequence of the long hot summer. Many insects emerged from their winter diapause several weeks in advance of their usual time. The length of time taken to complete their full life history would probably be much the same as usual but would be complete several weeks earlier because of the early start. With time to spare before the next winter many species have completed a second brood which has seldom been seen before.

Chloroclysta truncata, Common Marbled Carpet, a fresh specimen of the rufous variety was present on 23-10-89. This confirms the statement in Dunn and Parrack.

Apeira syringaria. Lilac beauty, arrived on 13-9-89. Skinner says that it is "single brooded".

Laothoe populi, Poplar Hawk, 21-9-89. Both Dunn and Parrack and Skinner refer to an occasional second brood. Skinner describes the three following Prominents as usually single brooded.

Notodonta dromedarius, Iron Prominent, 29-8-89.

Notodonta ziczac, Pebble Prominent, 30-8-89.

Pheosia tremula, Swallow Prominent, 29-8-89. (*P. gnoma*, Lesser Swallow Prominent which is always bivoltine was in the trap on the same night).

Ochropleura plecta, Flame Shoulder, 5-9-89, confirms the statement in Dunn and Parrack.

Acronicta psi. Grey Dagger, 24-8-89, Skinner states "single brooded".

Acronicta rumicis, Knot Grass, fresh on 27-8-89 and 29-8-89, confirming Dunn and Parrack, "on occasions it may be bivoltine".

Hypena proboscidalis, The Snout, 8-10-89, Dunn and Parrack, "virtually entirely univoltine with us".

P.L. Tennant

Olethreutes palustrana Lien. & Zeil. On 5-7-89 I was transported by landrover (by the kindness of Ian Findlay), to see the devastation caused by a moth to the bilberry plants on Harnisha Hill. This is on the southern slopes of the ridge dividing Weardale from Teesdale. The bilberry showed extensive damage to the tips of the plants where the leaves were brown and completely dead. According to the grouse-keeper previous years' infestations had killed large expanses of bilberry right down to the soil surface. The insect swarming over the plants was *Olethreutes palustrana* Lien. & Zeil., an uncommon species.

This was at an altitude of 485 to 490 metres extending for about 1 1/2 kilometres along the side of the hill. In all the available literature the foodplant is given as "mosses", but J.D.P. informs me thdt colonies of the same species in the Cheviots also feed on bilberry.

For a second visit to Harnisha Hill on 18-7-89, I did not have the 'luxury' of a landrover lift up the hill. After parking my car in the valley near the old mine workings, I proceeded up the hill on foot. As soon as patches of bilberry were encountered the insects flying over them were sampled. Beginning at an altitude of about 370 metres I was surprised to find that the prevailing species on the bilberry was *Rhopobota naevana* Hb. a very common moorland moth found on nearly all the Durham and Northumberland heaths. The bilberry was not markedly damaged. Suddenly at an altitude of about 470 metres *R. naevana ceased* to appear in the samples and was replaced by *O. palustrana* and the bilberry showed extensive damage. The change from one species to a second was most sudden. I did not have any samples where both moths were present. These observations conjure up many possibilities for future investigation.

T.C.D.

Butterflies at Thrislington Plantation. Last year, 1988, the Ringlet butterfly was recorded from Thrislington for the first time. During a visit on 12-7-89 seven species of butterflies were recorded, the surprising thing being that the Ringlet, *Aphantopus hyperantus* L. was by far the most abundant of them all.

R. Harris & T.C.D.

Night flying moths at Juncus flowers. As a result of a discussion with Tom Dunn about moths drinking at the flower heads on the genus *Juncus* we have observed moths doing this during July and August this year. It is well

known that *Juncus* is pollinated by wind so I collected flowers at which moths had been feeding, for further examination. The first observation was that all the heads had set fruit. Therefore there was no chance of a nectar induced reward. However, we did notice large quantities of moisture (condensation, dew?) trapped in the heads. With the help of Dr. John Richards we tested this water for a sugar response. To John's surprise a slight but quite positive response was obtained indicating some sugar content. To account for this situation we can only assume insect damage (e.g. by thrips or aphids) causing sap to leak into the water giving a slight sugary solution. This still leaves the interesting problem of; are the moths attracted by the water for a drink and get the slight amount of sugar as a bonus, or do they actually settle for a feed because of the sugar content itself? Further experiments next year if the opportunity arises.

Kevin Reiling

RECORDS

FLOWERING PLANTS AND FERNS

Parenthusellia viscosa (L.) Carmel. Yellow Bartsia. 66
Fairly common in one area, on a grassy slope, in the Washington Wildfowl and Wetlands Park.

Andrew Donnison

Orobranche minor Sm. Lesser Broom rape. 66
Growing on clover, on the disused railway sidings at Faverdale, Darlington.

Digitaria sanguinalis (L.) Scop. Crab-grass. 66
Growing at the foot of a wall in Abbey Road, Darlington. Not seen in the county since 1805.

Selaginella kraussiana (Kunze) A.Br. 66
In the west cemetery, Darlington. According to Clapham, Tutin and Warburg, "commonly grown in greenhouses, escaped and naturalised in Cornwall, Ireland and perhaps elsewhere. Native of tropical and S. Africa and the Azores". First record for vc66.

Hazel Peacock

LEPIDOPTERA — BUTTERFLIES AND MOTHS

Thymelicus sylvestris Poda Small Skipper 66
In thousands at Witton-le-Wear Nature Reserve, 15-7-89. A small colony, 2-8-89, near the old Coundon station buildings on the old railway between Bishop Auckland and Spennymoor.

R. Harris and T.C.D.

Olethreutes palustrana Lien. & Zeil. 66
On Harnisha Hill between altitude 470 and 490 metres in large numbers flying over *Vaccinium myrtillus* L. 5-7-89 and 18-7-89.

T.C.D.

Tethea ocularis L. Figure of Eighty. 66
A single specimen at light in Malton Nature Reserve, 6-7-89, the first record for vc66.

T. Coult

Macroglossum stellatarum L. Humming-bird Hawk-moth. 67
Nunnykirk, Colt Park Wood, 15-6-89, seen in an open ride at 7.15 p.m. hovering and feeding on Bugle.

Ruth Walton

Cynthia carduiL. Painted Lady. 67
One on buddleia in my garden at Gosforth, 18-7-89.

C.J. Gent

Anticlea derivata D. & S. Streamer. 66
In the Shildon Rothamsted trap, 5-5-89.

Phragmatobia fuliginosa L. Ruby Tiger. 66
At light, Shildon, 17-5-89.

Lampropteryx suffumata D. & S. Water Carpet. 66
Shildon at light, 18-5-89.

Thyatira batis L. Peach Blossom. 66
Shildon, at light, 19-6-89.

Idaea biselata Hufn. Small Fan-footed Wave. 66
Shildon, at light, 18-7-89.

Nola confusalis H.S. Least Black Arches. 66
One at light at Shildon 7-5-89.

Thalpophila matura Hufn. Straw Underwing. 66
At light at Shildon, one on each of the nights 15-7-89, 21-7-89, and 26-7-89.

Nola cucullatella L. Short-cloaked Moth. 66
At light, Shildon, one on 27-7-89.

David Kipling

Cynthia cardui L. Painted Lady. 66
Seen at Railway Cottages, Nevilles X, 2-9-88
Peribatodes rhomboidaria D. & S. Willow Beauty. 66
At light, Railway Cottages, Nevilles Cross, 6-9-88.
Eupithecia linariata D. & S. Toadflax Pug. 66
At light, Railway Cottages, Nevilles Cross. 6-9-88.
Aporophyla nigra Haw. Black Rustic. 66
At light, Railway Cottages, Nevilles Cross. 7-9-88.
Erannis defoliaria Cl. Mottled Umber. 66
At light, Railway Cottages, Nevilles Cross, 13-12-88. R. Braithwaite
Acentria nivea 01. Water Veneer. 66
One at light, Malton, 13-6-89. T. Coult
Dichrorampha plumbana Scop. 66
Flying over rough grassland near Frosterley, 16-6-89.
Dichrorampha plumbagana Treit. 66
With the above, 16-6-89.
Epermenia chaerophyllella Goeze. 66
Two seen in West Butsfield Quarry, 218-89. Not seen in the county since Robson's records in the early part of the century. Another specimen was taken during the N.N.U. Field Meeting at Rosa Shafto Nature Reserve, 9-9-89. In both sites *Heracleum sphondylium*, Hogweed, the foodplant of the caterpillar, was very common and widespread. T.C.D.
Hepialus humuli L. Ghost Moth. 66
Washington, very widespread and common, 12-6-89 to 28-7-89.
Hepialus hecta L. Gold Swift. 66
Albany district of Washington, one specimen only 30-6-89.
Hepialus lupulinus L. Common Swift. 66
Widespread in Washington, 29-5-89 to 24-6-89.
Hepialus sylvina L. Orange Swift. 66
Washington, 20-7-89 to 7-8-89.
Hepialus fusconebulosa DeG. Map-winged Swift. 66
Albany district of Washington, 12-6-89 to 23-6-89.
Zygaena lonicerae chev. ssp. *latomarginata Tutt.* Narrow-bordered Five-spot Burnet. 66
Washington, 4-7-89 to 25-7-89.
Satumia pavonia L. Emperor Moth. 66
Smiddyshaw, Bollihope, Eggleshope, 8-5-89 to 28-5-89.
Thyatira batis L. Peach Blossom. 66
Wildfowl and Wetlands Park, Washington, 7-7-89 to 19-7-89.
Ochropacha duplaris L. Common Lutestring. 66
Washington Wildfowl and Wetlands Park, 25-7-89 and 27-7-89.
Cilix glaucata Scop. Chinese Character. 66
Washington 17-5-89 to 16-6-89 and 1-8-89 to 16-8-89.
Eucosma campoliliana D. & S. 66
Albany, Washington, 13-8-89 to 15-8-89.
Ditula angustiorana Haw. 66
Washington Wildfowl and Wetlands Park, 2-8-89.
Hedya nubiferana Haw. 66
Albany, Washington, 22-7-89.
Crambus perlella Scop. f. *waringtonellus* 66
Albany, Washington, 9-8-89 to 14-8-89.
Croesia forsskaleana L. 66
Fatfield, 11-8-89.
Ypsolopha dentella Fabr. 66
Albany, Washington, 4-8-89
Ypsolopha scabrella L. 66
Fatfield, 8-8-89 to 14-8-89.
Carcina quercana Fabr. 66
Fatfield, 28-7-89.
Limnaecia phragmitella Sit. 66
Washington Wildfowl and Wetlands Park, 14-7-89 to 11-8-89, rising to a peak of 100 plus specimens at the height of the emergence.

Kevin Reiling