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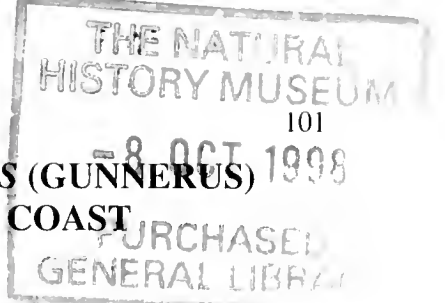
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BASKING SHARKS *CETORHINUS MAXIMUS* (GUNNERUS) STRANDED ON THE YORKSHIRE COAST

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INTRODUCTION

The basking shark, one of only three plankton-feeding sharks, is the world's second largest fish with specimens growing to 9.8 metres and weighing in excess of 4 tonnes (Burchett, 1996). Its highly elongated gill rakers (modified dermal denticle) with which it filters plankton from the sea are deciduous, being shed in winter when it evidently moves to deep waters to 'hibernate' (Lythgoe & Lythgoe, 1971; Burchett, 1996).

Although having formed the basis of several commercial fisheries, little is known in detail of its population composition, seasonality, breeding biology, distribution and status. Consequently, the lack of even a basic knowledge on which to base a strategy for harvesting sustainable proportions of a managed population has led to stocks invariably collapsing after commercial exploitation (Burchett, 1996).

Its currently depleted and possibly endangered populations appear to be distributed in cool, mainly coastal waters in the north and south Atlantic, the Mediterranean, north and south Pacific and off the southern coast of Australia. Its distribution in the north Atlantic is extended into arctic latitudes by the affect of the northward flowing Gulf Stream (Burchett, 1996).

HISTORICAL BACKGROUND

Specific evidence of basking sharks in the southern North Sea and on the Yorkshire coast is scant indeed. Clarke and Roebuck (1881) note that the species is 'supposed to have occurred near Scarborough on two occasions but evidence as to identification is insufficient', Grabham (1907) omitted the basking shark from his 'Victoria County History' review of Yorkshire fish, and Spaul (1956), though providing no specific records for the Yorkshire coast, regarded it as 'not common' with 'only small specimens seen'. Whittaker (1971), more precisely refers to basking sharks being 'occasionally caught in the Filey Bay salmon nets'.

The only fully documented historical record appears to be of a specimen measuring 7.26 m in length and 3.43 m across the tail which became entangled in salmon nets at the mouth of the Tees near Redcar in early August 1907. A fine photograph taken by Thomas Nelson, the celebrated Cleveland naturalist, shows the specimen displayed under an awning on the beach at Redcar. Evidently samples of the comb-like bronchial appendages (gill-rakers) and a sample of skin were forwarded to Sir William Turner of Edinburgh University for examination and confirmation (Sheppard, 1907).

RECENT RECORDS

On the 9th June 1994 a 4.57 m specimen became tangled and died in fishing nets off the Holderness coast of Fraisethorpe (*Yorkshire Post*, 1994 Anon., 1994) and on 5th September 1996 a 6.40 m, 3.2 tonne specimen became tangled in fishing nets in Bridlington bay and stranded dead on the beach (*Hull Daily Mail*, *Yorkshire Post* and *Daily Telegraph*, 1996).

OCEANOGRAPHIC CONTEXT AND DISCUSSION

Like the summer migrations of baleen whales in the north Atlantic, which move from the tropics to temperate and arctic waters, groups of plankton-feeding basking shark, now so rare in British waters, seasonally move north along the edge of the continental shelf off the west coast of Ireland and north-west Scotland. Like the whales, the basking sharks appear to be working the 'plankton fronts' which form as nutrient-rich Atlantic water from the Gulf Stream rises to the surface when it encounters the colder local coastal water.

In general, 'plankton fronts' can form during sunny weather when nutrient-rich water, stirred up from the sea bed by currents, tides or by the meeting of different water masses, becomes trapped within a layer of warmer water at the surface. These nutrients are required by planktonic plants which then grow and reproduce in the light and warmth available in the surface layers.

In addition to the plankton fronts which form off western Britain, fronts also develop in the Irish Sea, no doubt giving rise to the seasonal occurrence of basking sharks off the Isle of Man, and in turn the seasonal (now defunct) shark fishery.

Evans (1990) shows that plankton fronts are capable of forming along Britain's North Sea coast, where deeper 'stratified' waters meet cooler coastal 'mixed' water. These provide the basis of marine food chains which in turn give rise to and sustain adjacent seabird colonies. The significant manifestations of this phenomenon along the Yorkshire coastline are the celebrated seabird colonies at Scarborough and Bempton and possibly the common and grey seal breeding colony at Donna Nook.

It is likely therefore that vagrant groups of basking sharks, flushed into the northern North Sea by surges of warmer Atlantic water, may specifically search for and work these plankton fronts.

Significantly, the two recent Yorkshire coast records both occurred in the vicinity of one of the North Sea predicted plankton fronts (Evans, 1990). They also occurred, during the summer months when plankton fronts were likely to be present and coincided with periods of warm sunny weather when planktonic production would have been particularly high.

ACKNOWLEDGEMENTS

I would like to thank Angela Gowland and Barry Kirk for drawing my attention to the recent Yorkshire occurrences.

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A REVIEW OF THE GENUS *METRIOPTERA* (ORTHOPTERA: TETTIGONIIDAE) IN YORKSHIRE

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INTRODUCTION: THE YORKSHIRE TETTIGONIOIDEA

Of the orthopteroid insects recorded as indigenous species, established aliens and occasional migrants in the British Isles (*sensu* Marshall & Haes, 1988), 29 are said to have occurred in Yorkshire; of these, eight belong to the superfamily Tettigonioidea. Seven are bush-crickets Tettigoniidae, encountered since the first records in 1837, when the Short-winged Cone-head *Conocephalus (Xiphidion) dorsalis* (Latr.) and the Bog Bush-Cricket *Metrioptera (Metrioptera) brachyptera* (L.) were located on Thorne Moors. From the 1860s onwards, other species were collected in the county: Oak Bush-cricket *Meconema thalassinum* (De Geer), Dark Bush-cricket *Pholidoptera griseoptera* (De Geer), Speckled Bush-cricket *Leptophyes punctatissima* (Bosc) and Roesel's Bush-cricket *Metrioptera (Roeseliana) roeselii* (Hagenb.). There are many published allusions, and some pinned specimens. The Great Green Bush-cricket *Tettigonia viridissima* L. has also been noted as occurring in Yorkshire (e.g. Lucas, 1920), including as a "casual introduction" (Whiteley, 1981; D. Whiteley, *in litt.*), but this species remains, at best, enigmatic. The eighth species, a member of the Rhaphidophoridae (wingless camel-crickets), is the Greenhouse Camel-cricket *Tachycines asynamorus* Adelung which, although not a native, has occasionally become established in Britain in the present century. Two specimens are known from Yorkshire, captured in 1943 and 1963, though only the latter has been cited (Whiteley, 1976).

In common with all other orthopteroid insects, until the publication of this paper, no bush-crickets had ever been the subject of a detailed review in the county. Furthermore, the only comital checklist for these orders (Porritt, 1907) is now over 90 years old. Against this unpromising background, it is perhaps surprising that two of the few volumes on British orthopteroid insects were published in Yorkshire. These include the pioneer work, written over a century ago by Malcolm Burr. The text (and six lithographs) were issued serially in 1897, in S. L. Mosley's *The Naturalists' Journal and Guide*, published by the Economic & Educational Museum, Huddersfield. This was volume 6 of a periodical which saw several changes, especially in its title (Sheppard, 1916). The orthopteroid component of the volume was intended to constitute a separately paginated supplement (Burr, 1897); with a number of "separate copies", in a slightly augmented form (Burr, 1897a), also being "struck off for future students" (Mosley, 1897). Burr's text gives two Yorkshire records of bush-crickets, including Bog Bush-cricket at Strensall Common (*q.v.*).

The enhanced understanding of bush-cricket distribution in Britain now available (Haes & Harding, 1997; Orthoptera Recording Scheme) reinforces Yorkshire's position as a northern frontier. East of the Pennines, the Oak Bush-cricket is predominantly associated with Magnesian Limestone woodland, its northerly limit being in the Ripon area. Records of the Dark Bush-cricket extend no further than the coast between Scarborough and Robin Hood's Ray, with the Bog Bush-cricket attaining the southern flank of the North York Moors. Of the three remaining species in Yorkshire, two are restricted to the Humber region, but the third, the Speckled Bush-cricket, has been found as far north as Harrogate, where a recently discovered colony exists in a garden.

In seeking to understand the ranges of all these insects in Britain, Yorkshire clearly has a significant contribution to make. A detailed knowledge of bush-cricket sites is also essential for their conservation. Populations are more likely to be lost or reduced through ignorance than through collecting or disturbance. Further, any Yorkshire locality with a resident bush-cricket is potentially a site of intrinsic importance, as the insects are often indicators of high quality habitat, especially so far north. All records of bush-crickets in

Yorkshire are notable, and should be forwarded to the relevant recorder of the Yorkshire Naturalists' Union, and to the Orthoptera Recording Scheme organiser.

THE GENUS *METRIOPTERA* IN BRITAIN

In north-western Europe, the genus *Metrioptera* is represented by three species. The Two-coloured Bush-cricket *M. (Bicolorana) bicolor* (Phil.) is widely distributed on the Continent, and Burr (1900), in a review of the British Orthoptera, speculated that this species "might yet turn up", though his conjecture has proved to be mistaken. It does not occur in Britain, and only marginally extends into Fenno-Scandia (Holst, 1986).

The remaining two species penetrate further north in Europe (Holst, 1986), and are native in Britain, where they have dissimilar ranges. The Bog Bush-cricket is scattered throughout England and Wales, and also occurs in south-west Scotland, but has never been found in Ireland (Haes & Harding, 1997). It is often a characteristic denizen of damp, lowland heaths and mires, recorded at a maximum altitude of 290 m, in Surrey (Baldock, *in prep.*). In Europe, it attains elevations of 2200 m in the central Alps (Harz, 1957), and has a wider habitat tolerance. Roesel's Bush-cricket is also an essentially lowland species in Britain, rarely exceeding 100 m. On the Continent, it is often a common inhabitant of grasslands, and may reach 1500 m (Harz, 1957). The species is less restricted than Bog Bush-cricket to a specific habitat in Britain, and is currently extending its range in the south (Ward, 1993, Haes & Harding, 1997). Originally recorded from the landward side of coastal saltmarshes and dunes from the Humber to Kent, in recent years it has spread, predominantly westwards and northwards, to urban wasteland, verges and agricultural set-aside land. By the end of 1997, this expanding population was known from east Essex to Oxfordshire (E. C. M. Haes, J. P. Widgery, *in litt.*). There are also isolated populations elsewhere, in Lancashire, Yorkshire, Lincolnshire, Hampshire, the Isle of Wight, Somerset and mid-Wales, as well as in southern Ireland (Haes & Harding, 1997; J. P. Widgery, *in litt.*)

Both are medium-sized bush-crickets, with the sexes similar. They can be identified using keys to adults in Ragge (1965), Marshall and Haes (1988) and Brown (1990), all of which also contain colour plates. Good photographs feature *inter alia* in Bellmann (1988), this reference also including the Two-coloured Bush-cricket in its identification key. There are two colour morphs, or forms, of the Bog Bush-cricket. One, f. *thaetorum* Fruhst., is brown except for the underside of the abdomen, which is green. In the commoner typical form, the green colouration is more extensive, including the easily observed dorsal surfaces of the head and pronotum. Additionally, there is in this species a narrow pale band on the hind margin of each lateral plate of the pronotum. In Roesel's Bush-cricket, the body colour is predominantly brown and yellow – including conspicuous yellowish patches on the sides of the thorax – though green specimens may also be encountered. The pale band on the sides of the pronotum is present and well developed, being broader and encompassing the entire margin. In addition, the female Roesel's ovipositor is shorter, and more upcurved, than that of Bog Bush-cricket.

Although both species are normally brachypterous, long-winged individuals capable of flight do occur. In Britain, the first such specimen of each was encountered in the early 1920s (Lucas, 1922, 1923). Bog Bush-crickets of this form, *marginata* (Thunb.), are very rare; Ragge (1973) summarised all known captures 1921-1970, and Haes (*in prep.*) is updating the list. By contrast, the macropterous form *diluta* (Charp.) of Roesel's Bush-cricket is sometimes quite frequent in especially hot summers (Marshall & Haes, 1988), and is essential for the range expansion being witnessed in southern England. However, no macropterous examples of either species are so far known from Yorkshire.

Despite being superficially similar in appearance, the two species are placed in different subgenera. Perhaps the most striking disparity between them is the contrast in their respective stridulations. The fast incessant buzzing of Roesel's Bush-cricket recalls some *Locustella* warblers (Burton & Johnson, 1984, Collyer, *et al.*, 1984). Quite different is the sound of Bog Bush-cricket, a scratchy shrill chirp, repeated several times a second, and

inaudible to many listeners. An explanation of these different types of song is given by Schatral (1990). Both species feature *inter alia* on a record (Ragge, *et al.*, 1965) produced as a companion to Ragge (1965), and on a cassette tape (Burton, *et al.*, 1987) available alongside copies of Marshall and Haes (1988).

METRIOPTERA IN YORKSHIRE

In 160 years of recording, Bog Bush-crickets have been located at eight sites in Yorkshire, aggregated in the Humberhead Levels/Vale of York, and on the North York Moors. At least six of these populations are still extant, and all are detailed *postea*. Of them, Thorne Moors and Strensall Common are especially important for the insect's conservation in north-eastern England. These two localities were the only ones known to Victorian entomologists, all the others being discoveries of the present century. A ninth site, Skipwith Common, has unconfirmed records, but the species seems to be genuinely absent, despite the apparent suitability of the Common. In addition, a pre-1970 presence in 10 km square SE61 (Thorne) shown in Haes and Harding (1997) is due to the misunderstanding of a vague reference, and should be disregarded (E. C. M. Haes, J. P. Widgery, *in litt.*). The Thorne Moors population was intended, which lies – as mapped – further east, in SE71.

Roesel's Bush-cricket was the last native tettigoniid to be discovered in Yorkshire, over half a century ago, and has the most restricted range. It is only recorded from the Skeffling/Kilnsea area in the south-east, though the species' current range changes in southern England has prompted the suggestion that isolated colonies, as in Yorkshire, require close monitoring (Widgery, 1996). The appearance of macropters in a population is relevant to any alteration in status, and naturalists should be vigilant for them.

YORKSHIRE STATIONS OF THE BOG BUSH-CRICKET

THORNE MOORS

This is the only bush-cricket known from Thorne Moors today. It was first taken in 1837, by J. C. Dale (Dale, 1863; Lucas, 1925), who thereby established the genus in Yorkshire. The Dale Collection, in the Hope Entomological Collections, Oxford University Museum of Natural History, contains two Thorne specimens. The first is a male labelled "Thorne Moor", with the date 11th August 1837 (Lucas, 1925). The second, a female apparently omitted by Lucas, has a data label in the same style of writing as that of the male, but is just marked "Thorne" (D. J. Mann, C. O'Toole, *in litt.*). G. T. Porritt knew the species as abundant on Thorne Moors (Porritt, 1907; Lucas, 1920), his collection at the Tolson Memorial Museum, Huddersfield, containing eight specimens taken in 1891 labelled "Thorne Moors".

The first "modern" record is of a female collected by W. Bunting in 1949 and passed to W. D. Hincks (Brown, 1950). It is still held in the collection at Manchester Museum (C. Johnson, *in litt.*). Hincks (1954) described Thorne Moors as the Yorkshire headquarters of the species, where "Bunting has collected it quite commonly in recent years". In the succeeding decades the species has been frequently noted (e.g. Limbert, 1975, 1987; Key, 1994), and the distribution of records 1969-1984 is given as a list of 18 x 1 km squares in Limbert (1986). Since then, vegetation stripping, habitat fragmentation and drainage, all associated with industrial peat winning, have reduced the species' numbers and restricted its distribution. There are, however, wide areas of vegetation where colonies have been maintained, and which are now part of the Humberhead Peatlands National Nature Reserve. The eastern area of the moorland – Crowle Moor – lies in Lincolnshire, and the populations on either side of the boundary still comprise the respective county headquarters. In Lincolnshire, there are only two other extant stations known; these are referred to in Smith (1988), without any reference to Crowle Moor.

The vegetation usually associated with the Bog Bush-cricket on Thorne Moors is dominated by birch *Betula* (young and stunted older trees), Heather *Calluna vulgaris*, Cross-leaved Heath *Erica tetralix*, Purple Moor-grass *Molinia caerulea*, Cotton-grasses *Eriophorum* and Bracken *Pteridium aquilinum*. Of these, the essential species are Cross-

laved Heath and Purple Moor-grass. The latter is particularly favoured, and is a useful indicator of terrain likely to harbour the insect. Individuals also continue to be occasionally noted from Purple Small-reed *Calamagrostis canescens*, and in August 1980 a male was stridulating from adjacent wheat stubble (Limbert, 1987).

Many living Thorne specimens have been examined, and a series is preserved in the writer's collection. This includes a female of f. *rhaetorum*, collected in 1987. The only other known example of this form taken at Thorne, also a female, was obtained by B. C. Eversham in 1980 (Limbert, 1987). The green type-form has been otherwise exclusive.

HATFIELD MOORS

Bog Bush-crickets still survive on Hatfield Moors, despite being under much greater threat from peat winning. The first records were obtained 1978-80, when fieldwork by B. C. Eversham and M. Lynes revealed the species in three 1 km squares: SE6904, 7008 and 7105 (Limbert, 1986); specimens from that time are preserved (B. C. Eversham, *pers. comm.*). During a programme of invertebrate trapping in 1990 for the Thorne & Hatfield Moors Conservation Forum, a nymph was found in a water trap situated in the south of the moorland, at Poor Piece, and is now in Doncaster Museum. This finding was not included in the report on the programme (Heaver & Eversham, 1991). Further trapping, by P. Skidmore, to the north of Lindholme, revealed a specimen in a water trap (SE706069) in 1991; its remains are also in Doncaster Museum. The trap was situated on bare peat in an area of Heather, close to birch and Bracken, and with Purple Moor-grass 10 m distant.

In comparison with Thorne Moors, more specimens of f. *rhaetorum* have been encountered on Hatfield Moors (B. C. Eversham, *pers. comm.*). This may possibly reflect the drier conditions of Hatfield Moors, which Skidmore (1997) characterises as entomologically more akin to wet heath than raised mire. Data on colour morphs from other Yorkshire stations are required to more fully understand this phenomenon.

STRENSALL COMMON

Another important site in the county, where G. T. Porritt first detected the Bog Bush-cricket over a century ago (Shaw, 1890). In his collection, a male specimen from Strensall Common taken in 1889 presumably represents the discovery of the species there. This was later alluded to by Burr (1897, 1897a), Porritt (1907) and Lucas (1920). No further records have been traced until a male was collected by J. Wood in 1949; the specimen is held at Manchester Museum (C. Johnson, *in litt.*). Liverpool Museum has a female from Strensall Common, obtained by B. C. Pickard in 1953 (T. Mawdsley, A. Fryda, *in litt.*). Records were garnered from the Common in the 1960s by C. I. Simms and J. H. Flint, the latter retaining a male specimen in 1967 (Y.N.U. records; H. E. Flint, *in litt.*). E. C. M. Haes (*in litt.*) encountered the species in 1974 and 1977.

Subsequently, in the 1980s, Marshall and Haes (1988) described the colony as "very strong and long known". J. H. Flint collected single specimens in 1981 (female) and 1987 (male); and L. Lloyd-Evans found a "thriving colony" in Purple Moor-grass at the northern end of the Common (Limbert, 1986). In 1991, J. P. Killingbeck (*in litt.*) recorded the species on several parts of the Yorkshire Wildlife Trust reserve, especially where Purple Moor-grass was present. The bush-crickets were seen to feed on the seeds of this grass. A. Grayson described the reserve as holding a "large colony" (Limbert, 1991), and subsequently provided additional records from other parts of the Common. In total, his data embrace the years from 1988 to the present, and combined with those of other observers from the 1980s-1990s show the species to persist in at least four 1 km squares: SE6360, 6459, 6461 and 6561.

DUNNINGTON

At Dunnington, to the south-east of Strensall Common, the Rev. T. B. Kitchen collected an immature pair (*contra* Hincks, 1954) in 1947 (Brown, 1949). The exact site is uncertain, but is now probably destroyed. The female of the pair, determined by W. D. Hincks, resides at Manchester Museum (C. Johnson, *in litt.*).

WYKEHAM FOREST

A male was collected by W. D. Hincks in 1953 from a "heather-covered clearing in the middle of the Forestry Commission's Wykeham Forest" (Hincks, 1954). This specimen is also at Manchester Museum (C. Johnson, *in litt.*).

FYLINGDALES MOOR

This moorland was given as a site by Walsh (1956), on the authority of H. Britten sen., who died in 1954. Neither a location nor a specimen have been traced. However, a possible clue to the location was forthcoming in 1991, when D. Horsfield collected a female, in an area of *Sphagnum* and Purple Moor-grass (map reference NZ919982), from a valley mire near Bloody Beck and Brown Hill. At 190 m, this is the highest localised station for the species in Yorkshire. Only the Wykeham Forest site is potentially of greater altitude. The specimen involved is now in Doncaster Museum.

FEN BOG

Marshall and Haes (1988) observed that the Bog Bush-cricket "continues to thrive" at the Y.W.T. reserve of Fen Bog. Although the reserve lies close to Fylingdales Moor, it may nevertheless be regarded as distinct from it. The species was originally discovered during the hot summer of 1976. E. C. M. Haes described a walk along Newton Dale and North Dale to Goathland made on 17th July (Haes, 1977), but he deliberately made no mention at that time of the Bog Bush-crickets he encountered along the route. At least six, including four females, were located on the south-westernmost edge of Fen Bog that adjoins the North Yorkshire Moors Railway. All are thought to have been green morph specimens (E. C. M. Haes, *in litt.*). A few weeks later, on 7th August, S. A. Moran and J. L. B. Mallet found Bog Bush-crickets to be fairly common between the Railway and Fen Bog, though with none on the mire itself (S. A. Moran, *in litt.*; Limbert, 1991). Of these, single male and female specimens were collected and deposited by Moran in the Hull & East Riding Museum. Finally, A. Grayson (*in litt.*) has two specimens from Fen Bog: a male taken in 1990 (Haes, 1991; Limbert, 1991), a female in 1995. Both were found to the south of Eller Beck, on the eastern edge of the mire.

JUGGER HOWE DALE

During the field meeting of the Y.N.U. Entomological Section and other entomologists at Scar and Castlebeck Woods and Jugger Howe Dale, in 1986, R. D. Hawkins encountered the species on the western side of Jugger Howe Dale. In a stretch of Heather at map reference SE947967, one male and two females were found; and in a "heathery clearing" at Park Hill (SE946972), there were several males and three females (R. D. Hawkins, *in litt.*; Limbert, 1991). Again, it seems reasonable to differentiate this locality from Fylingdales Moor *sensu stricto*.

ROESEL'S BUSH-CRICKET IN THE SKEFFLING/KILNSEA AREA

DISCOVERY AND EARLY RECORDS

The first reference to Roesel's Bush-cricket in Yorkshire is from Burr (1936), who stated that the species had been recorded on the English east coast, "from Herne Bay to the Humber". He added that "I have notes of its occurrence from north-east Kent (Herne Bay), Essex, Lincoln and Yorkshire . . .". His book includes the first, though inevitably generalised, distribution maps of orthopteroid insects in Britain. That for Roesel's Bush-cricket indicates a range extending along the Humber and on the Yorkshire coast northwards to Scarborough. The source of this information was not explained, and Hincks (1950) later noted (*q.v.*) that "Burr . . . mentions this species from Yorkshire and includes the Spurn area in the distribution map but I have not yet traced any more definite record". Indeed, Burr had created a puzzle which still did not have a satisfactory answer over 60 years later. Its solution appears to lie in the Hull & East Riding Museum. That part of the Thos Stainforth Collection which still survives there includes two specimens of Roesel's

Bush-cricket, one of each sex, with identical data: taken on the "Humber shore Easington/Skeffling" on 15th September 1934. It is assumed that Stainforth himself collected them.

During the years 1947-1950, four extended visits were made to the Spurn area by members of the Entomological Section of the Y.N.U. (Hincks, 1951). These were then augmented by three similar visits during the years 1951-1953 (Anon., 1954). It was this intensive programme of fieldwork which firmly re-established the presence of Roesel's Bush-cricket in Yorkshire. W. D. Hincks encountered a single nymph along Long Bank Dyke, Kilnsea, in 1947, and he attempted, though failed, to rear it. Visiting the Dyke in the following year, Hincks located several nymphs, and succeeded in rearing one of them. This was described by him as "a fine male" (Brown, 1949, Hincks, 1950), and is held at Manchester Museum (C. Johnson, *in litt.*). Hincks himself characterised the species as distributed on the English east coast, "to Yorks." (Hincks, 1949), and writing more specifically of the Spurn area (Hincks, 1950), provided the greater detail noted above. Like Brown (1949), he added the allusion to Roesel's Bush-cricket in Yorkshire by Burr (1936), and, as noted, was clearly uncertain about it.

Further attention by Hincks resulted in two males being collected at "Skeffling" in 1949 (Brown, 1950; Hincks, 1951a), now preserved alongside the 1948 specimen at Manchester Museum. Nymphs were also found at Walker Butts Bank Dyke (see Cudworth, 1995) in 1952 (Hincks, 1953). In 1953, the species was still to be found "sparingly" at both Long Bank Dyke and Walker Butts Bank Dyke, despite the extensive inundation by the sea in January of that year (Hincks, 1954). Ironically, the latter dyke was destroyed during the year for flood protection work occasioned by January's events. A last station for the insect, documented by Hincks and Shaw (1954), was "North Lane", Kilnsea (known to naturalists as "Beacon Lane"), where nymphs were discovered in 1952 and 1953. Pickard (1954), naming the species the Margined Bush-cricket, from the appearance of the lateral plates of the pronotum (and Bog Bush-cricket as the Half-margined Bush-cricket), misleadingly summarised all these records as from the "south east coast" of Yorkshire. His specimens at the Natural History Museum, London, include two of this species – both males – collected at "Spurn Head" in 1955 (D. R. Ragge, *in litt.*).

Little was then heard of the bush-cricket for almost 20 years. Within that period, members of the Hull Scientific & Field Naturalists' Club came upon "a large number of Bush Crickets at Kilnsea" when there "one summer"; they were identified by D. H. Smith retrospectively from specimens he collected in 1964 (Kemp, 1963; Smith, 1965). These latter, a male and a female, were taken at roughly TA415159, in the Beacon Lane area, and are still held in his collection (D. H. Smith, *in litt.*). At the beginning of the succeeding decade, Flint (1971) referred in a general way to the species "at Kilnsea". Three years later, the first (preliminary) national distribution atlas (Skelton, 1974) reflected the contemporary lack of widely available and precise data. It indicated only a pre-1961 occurrence in the two 10 km squares in which Roesel's Bush-cricket had been encountered in Yorkshire.

MODERN RECORDING

Ironically, 1974 also saw the beginning of modern interest in Roesel's Bush-cricket. In that year, E. C. M. Haes visited the area, and found a nymph of the species "at the north end of the newly enlarged lagoon on the coast south-east of Easington" (Haes, 1975). In 1975, adult specimens were located by the writer along Beacon Lane, Kilnsea, where eight males were logged, all stridulating from "long, coarse grass" except one which was inhabiting an area dominated by Common Reed *Phragmites australis* just beyond the northern end of the lane (Limbert, 1975a). The colony was also examined again in later years, when fewer males were heard. Four specimens from Beacon Lane are preserved in the writer's collection, taken in 1978 (single male and female) and 1980 (two males).

Biglin and Moran (1982) reported on a survey of the Orthoptera associated with the north bank of the Humber during 1974-80, which included data on Roesel's Bush-cricket. Four stations were located. These comprised Beacon Lane and Long Bank Dyke, and two further populations along other dykes (at TA390180 and 411157). They commented that

the densest population was found at the northern end of Long Bank Dyke, “. . . where during the summer of 1980 the song of the males was a major feature of that area”. During the survey period, they found the species distributed over a total of nine 1 km squares, “in each case associated with a drainage channel”. Two males and one female collected by Moran in 1976 from Long Bank Dyke are preserved in the Hull and East Riding Museum.

During the 1980s-1990s, other naturalists encountered Roesel’s Bush-crickets, particularly in the Kilnsea area. The records were mainly of a casual nature, involving stridulating males, one of which was photographed by D. Bowes and published in *Spurn Wildlife* (Bell *et al.*, 1994).

The exception is a detailed survey by J. P. Killingbeck, undertaken during the years 1991-1994 (Killingbeck, 1997, 1997a). This was based on listening for males; “. . . the general pattern of distribution seems to coincide with farmland previously salt marshes . . . Almost any ditch in farmland south of Easington may potentially harbour a [bush]-cricket population”. The core of the population was in the Long Bank area. Confusingly, the population at “Long Bank west” is described as comprising “about 104 males” (Killingbeck, 1997) and “about 140 males” (Killingbeck, 1997a). The latter figure is incorrect, and arose from a typographical error (J. P. Killingbeck, *in litt.*). Most other parts were less densely populated, though with some annual fluctuations, and with some of the more peripheral colonies perhaps being impermanent. Most sites are listed in detail, and a general map given.

Killingbeck concluded that the insect requires “. . . long, uncut, grassy vegetation of reasonable density with good exposure to the sun”, adding that it was “. . . absent from sparse vegetation and short grass”. However, some ability seemed apparent to colonise waste ground which had areas of long grass. In general, the most favoured grasses appeared to be False Oat-grass *Arrhenatherum elatius* and Sea Couch *Elytrigia atherica*, though many individuals were detected in coarser herbage of Common Nettle *Urtica dioica* and Bramble *Rubus fruticosus* agg. Killingbeck also noticed a tendency for populations to follow drainage channels, but added that the correlation may not always be valid. It could be an artefact of the survival of suitable vegetation in the modern arable landscape.

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BOOK REVIEWS

Provisional Atlas of the Aculeate Hymenoptera of Britain and Ireland. Part 1 edited by **Robin Edwards**. Pp. 139, with 56 maps. Biological Records Centre, Huntingdon. 1997. £6.00 paperback.

This provisional atlas is the first of a series to be published at two-year intervals. Each part will deal with between 50 and 60 species. Part 1 deals with 55 species of wasps, ants and bees. One map is given for each species at 10km resolution with three year classes: before 1900, 1900-1969 and 1970-1995. The maps cover Britain, Ireland and the Channel Islands. The coverage is reasonable except for Ireland and Scotland. The species accounts give a succinct review of current knowledge under such headings as: habitat and status, flight period and nesting biology, pollen and prey collected, flowers visited and parasites. An extensive bibliography supports this information, although some of the information is based on unpublished observations. In the introduction a brief history of the Bees, Wasps and Ants Recording Society (BWARS) is given. This book represents a good beginning to recording distribution and is essential for aculeate Hymenoptera students. BWARS members have received a free copy.

MEA

Blowflies by **Z. Erzinclioglu**. Pp. 71, including 21 figures & 4 colour plates. Naturalists Handbooks no. 23. Richmond Publishing. 1996. £15.00 hardback, £8.95 paperback.

The author defines Blowflies as members of the family Calliphoridae and between the covers of this small publication we find an amazing wealth of information on these very important and much-maligned but fascinating insects. A well-known authority on blowflies, the author discusses their biology, habits and morphology in considerable detail and in an extremely readable style, before dealing with their relationship to man. Here are discussed such diverse subjects as myiasis, exemplified by the death of Herod Agrippa, King of Judaea in AD 48, their relationship with disease, and their role in war, including the use of the larvae of some species in treatment of wounds. Forensic applications and the significance of blowflies in archaeological research, the fields in which the author has been particularly involved, are then briefly addressed. There is a concise section on identification, by means of which most species may be readily determined. In this section, however, there is no key to the species of the genus *Pollenia*, an unfortunate omission as these flies are important earthworm parasites and include the very familiar "Cluster-flies" which occur very commonly indoors in autumn and spring. Those using this book for purposes of identification of adults should note also that the use of very conservative nomenclature has resulted in a slight problem with regard to one of the common species, *Melinda viridicyanea* (= *Bellardia cognate*, sensu Erzinclioglu). In the 1976 *Checklist of British Diptera* this was erroneously included in the genus *Bellardia*, instead of *Melinda*, and unfortunately this error is perpetuated in the work under review. Thus this species will not work out in the key to adults on p. 48 because, like *M. gentilis*, the lower calypter is bare on the upper surface (not hairy as in *Bellardia*). It is unfortunate that the nomenclature of Rognes (1991 *Blowflies (Diptera Calliphoridae) of Fennoscandia and Denmark*. Fauna Entomologica Scandinavica **24**) was not followed by the author but this does not detract from the book's considerable scientific value. Furthermore, such is Zak's clarity of delivery that even those with only a passing interest in entomology would gain much from this literary gold-mine.

PS

NOTES ON YORKSHIRE MOLLUSCA – NUMBER 11: A YORKSHIRE RED DATA BOOK FOR LAND AND FRESHWATER MOLLUSCA

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INTRODUCTION

Modern trends towards the identification of rare, vulnerable and endangered species within our flora and fauna have led to a number of forms of Red Data Books. The proposed production of a Red Data Book for the Watsonian County of Yorkshire, has led to considerable discussion amongst the county's conchologists. A simple list of rare and endangered species would be very similar to, but smaller, than the National Red Data Book list. It was felt, therefore, that a fuller list which included locally vulnerable and endangered species, with some notes, would be of more help to naturalists, conservationists and the managers of nature reserves and sites of special scientific interest within the county of Yorkshire.

The occurrence of any species on this list, therefore, does not indicate its status nationally or internationally. Those species that do occur in the British Red Data Book (Bratton, 1991), or the IUCN Invertebrate Red Data Book (Wells, 1983) are indicated and full details of habitats etc. can be found in those publications. The references cited are those notes and papers giving details of their distribution, status or some similar information which may be useful for further reference.

A short note was published on the rare and extinct freshwater mollusca of Yorkshire in Norris (1988); the following note adds some new or additional information. The list with its notes and comments is based purely on the present situation within the five vice-counties forming the traditional recording area of Yorkshire. The national and International status of any of the species is highlighted after the local status: **RDB** A British Red Data Book Species. **IUCN** are listed in the International Invertebrate Red Data Book.

LAND GASTROPODS

POMATIIDAE

Pomatias elegans (Muller, 1774) Endangered

A very local snail restricted to relatively frost free and sheltered localities. A southern Mediterranean species, it reaches its optimum northern distribution in Britain within the county. It is considered to be declining with extinctions occurring in many of its original localities in the north.

Ref. Kerney (1972).

Succinea (Succinella) oblonga Draparnaud, 1801 Endangered

This very local species has only been recorded from three locations within the county, one of which on Castle Hill, Scarborough, has been lost.

Ref. Norris (1978a & 1982).

VERTIGINIDAE

Truncatellina cylindrica (Ferussac, 1807) Endangered

A nationally rare species, it is now thought to be on the verge of extinction in Britain. In recent years this species has only been found living in one locality within the county.

Ref. Norris (1976 & 1978).

Vertigo (Vertigo) pusilla Muller, 1774 Vulnerable

This small snail is found only on very old ivy covered walls, usually under trees. The lack of suitable walls due to poor wall maintenance, combined with other factors in a changing landscape, could place this species in jeopardy.

Vertigo (Vertigo) alpestris Alder, 1838 Vulnerable

This small snail is found on ivy covered walls, often found in association with the above species, and as such is equally vulnerable to change.

Vertigo (Vertigo) geyeri Lindholm, 1825 Endangered **RDB**

This nationally rare species has only recently been added to the list of Yorkshire species. Its distribution within the county is still under investigation, but knowledge of this species in Ireland would suggest that it is very vulnerable to changes in habitat.

Ref. Lindley (1995).

CHONDRINIDAE

Abida secale (Draparnaud, 1801) Local

Found only on the high altitude mountain limestone escarpments and in screes below, usually at a height of 1,000 ft or more.

ARIONIDAE

Arion (Arion) lusitanicus Mabille, 1868 Status unknown

This species has only been recorded from two localities within the county. The status and distribution of this slug is very difficult to establish due to difficulties associated with separating it from a closely allied species.

Ref. Armitage (1967).

ZONITIDAE

Vitrea (Vitrea) subrimata (Reinhardt, 1871) Local

This arctic relict species is only found on the high altitude mountain limestone escarpments and the screes and grasslands above and below. It is usually found deep under scree or deep set boulders.

Ref. Norris (1975).

LIMACIDAE

Limax (Limacus) maculatus (Kaleniczenko, 1851) Status unknown

This slug is only known from one village in the Yorkshire Dales. A very common slug in Ireland and in some parts of Britain, as yet it does not seem to have become established within the county.

Ref. Norris (1992).

Malacolimax tenellus Muller, 1774 Endangered

This slug is only found in the late autumn and is confined to very damp old woodland. Many of its old habitats have been lost and it is now confined to a very few stations within the county.

Deroceras (Agriolimax) agrestis (Linnaeus, 1758) Vulnerable

Recorded from limestone pastures both on the mountain limestone and the magnesium limestone in Yorkshire. This slug is very scarce even in areas in which it is known to occur, as well as being very restricted in its distribution.

TESTACELLIDAE

Testacella (Testacella) maugei Ferussac, 1819, Extinct?*Testacella (Testacella) haliotidea* Draparnaud, 1801 Extinct?

There have been no records of these slugs from the county in the last 50 years.

Testacella (Testacella) scutulum Sowerby, 1821 Endangered

Locally rare, almost confined to old long-established gardens such as the Valley Gardens at Scarborough.

Ref Norris (1987).

HELICIDAE

Candidula gigaxii (Pfeiffer, 1850) Endangered

This snail has been recorded from a number of sites within the county but it has always been locally scarce. Several of the known sites have also been lost due to changes to its habitat.

Helicella (Helicella) itala (Linnaeus, 1758) Status unknown

This species used to be very common throughout Yorkshire, but over the last 50 years nearly two-thirds of its known locations have been lost. The reason for this drastic reduction in its distribution nationally is unknown.

FRESHWATER GASTROPODS

VIVIPARIDAE

Viviparus contectus (Millet, 1758) Vulnerable

Known as Lister's River Snail, this freshwater snail was first recorded by Dr Martin Lister over 300 hundred years ago (Lister, 1678). It has survived in a very few localities and is now considered to be very local. The few localities in which it is still found are very vulnerable to change.

HYDROBIIDAE

Hydrobia (Hydrobia) ventrosa (Montagu, 1803) Vulnerable

Known only from a small number of saline ditches bordering the Humber bank near Spurn.

ASSIMINEIDAE

Assiminea grayana Fleming, 1828 Vulnerable

Only known from two small areas of saline marsh on the banks of the River Humber.

ELLOBIIDAE

Ovatella (Myosotella) myosotis (Draparnaud, 1801) Vulnerable

Restricted to a small number of sites on the saline marshes on the banks of the River Humber.

LYMNAEIDAE

Lymnaea (Galba) glabra (Muller, 1774) Endangered **RDB**

Very local in temporary pools and ditches, mainly in the south-east of the county. This is a nationally rare species with the centre of its European distribution situated in South Yorkshire.

Myxus glutinosa (Muller, 1774) **EXTINCT RDB**

Nationally rare. Thought to be extinct in Yorkshire. Previously recorded from near Hull and Scarborough.

PLANORBIDAE

Gyraulus laevis (Alder, 1838) Vulnerable

Very locally distributed. Extinct in many of its former Yorkshire localities, this rare species is found in numbers in very few locations within the county.

Seguentina nitida (Muller, 1774) **EXTINCT RDB**

Formerly widely recorded, this species has declined to the point of near extinction in Britain. Thought to be extinct in Yorkshire.

Menetus (Micromeuetus) dilatatus (Gould, 1841) Vulnerable

Recorded from only one location within the county. The site has been visited on two occasions recently and no specimens could be found, due possibly to alterations to the habitats in the area.

ACROLOXIDAE

Ferrisia wautieri (Mirolli, 1960) Status unknown

Recorded from only one location within the county, the Calder and Hebble Canal near Elland.

Ref. Norris (1982a).

FRESHWATER BIVALVES

MARGARITIFERIDAE

Margaritifera margaritifera (Linnaeus, 1758) Endangered **IUCN**

It is estimated that there are no more than 100 adults left in the only Yorkshire location for this internationally rare freshwater bivalve.

UNIONIDAE

Pseudauodonta complanata (Rossmassler, 1835) Vulnerable

Local and scarce in some rivers and canals in Yorkshire. This species has gone from many of its former sites within the county.

SPHAERIIDAE

Sphaerium (Sphaeriastrum) rivicola (Lamarck, 1818) Vulnerable

Local and scarce in some rivers and canals in Yorkshire.

Sphaerium (Musculium) transversum (Say, 1829) Vulnerable

Only known from one location within the county, the junctions of the River Foss with the River Ouse at York.

PISIDIIDAE

Pisidium (Pisidium) pseudosphaerium Schlessch, 1949 Extinct? **RDB**

Only recorded from one location within the county, a marshy pond in the north of the county. Only one specimen was ever found in this pond. Recorded in large number in fossil deposits in South Yorkshire (Norris, 1971).

Pisidium (Pisidium) liljeborgii Clessin, 1886 Vulnerable

Rare, recorded from very few Yorkshire locations.

Pisidium (Pisidium) pulchellum Jenyns, 1832 Vulnerable

Rare and very local with very few Yorkshire sites known.

Pisidium (Pisidium) moitessierianum Paladilhe, 1866 Vulnerable

Very Rare, very few Yorkshire records.

Pisidium (Pisidium) tenuilineatum Stelfox, 1918 Vulnerable

Very rare, only one known Yorkshire site in the River Wharfe at Grassington, and only one specimen has ever been found.

Norris, (1993).

Dreissena polymorpha (Pallas, 1771) Vulnerable

The distribution of this species has been drastically reduced in recent years. The reasons for this are unknown but it has gone from many of its former habitats.

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- Norris, A. (1982). Notes on Yorkshire Mollusca – 4 *Succinea* (*Succinella*) *oblonga* Draparnaud 1801 at Queen Mary's Dubb, Ripon. *Naturalist* **107**: 18.
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- Norris, A. (1992). Notes on Yorkshire Mollusca – 9 *Limax* (*Limacus*) *maculatus* (Kaleniczenco, 1851) a slug new to Yorkshire, *Naturalist* **117**: 131-132.
- Norris, A. (1993). Notes on Yorkshire Mollusca – 10 *Pisidium tenuilineatum* Stelfox, 1918 a small bivalve mollusc new to Yorkshire. *Naturalist* **118**: 17.
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ON J. W. DUNNING'S AUTHORSHIP OF SOME EARLY OBSERVATIONS ON YORKSHIRE

GEOFFREY FRYER

Rimington and Beaumont (*Naturalist* **121**: 145-155, 1996) reported the finding of extensive manuscript entries relating to Yorkshire Lepidoptera in an interleaved copy of Rennie's *A Conspectus of Butterflies and Moths found in Britain* (1832) that had evidently belong to, and was signed by Joseph William Dunning. All their evidence suggested that the annotations were by the hand that signed the book but they were unable to establish this conclusively. Happily, evidence that virtually clinches Dunning's authorship exists.

It is now established that Dunning became a pupil at Peter Inchbald's school at Storthes Hall area that several of the records emanated at the appropriate time. Notwithstanding his youth (he was only 13 to 14 years old over the period in question), these were in deed his own, though they no doubt reflect the encouragement and guidance of his teacher, Inchbald, himself a competent naturalist. In C. P. Hobkirk's *Huddersfield: its history and natural history* (1859; 2nd ed. 1868), both Dunning and Peter Inchbald are amongst the

entomologists thanked for their contributions to the list of Lepidoptera that appears in that work. Moreover, Dunning is specially thanked for information on the so-called 'Microlepidoptera', of which many species are listed for Storthes Hall. In this connection Hobkirk refers to him as 'Mr. Dunning of Cambridge, formerly a pupil at Storthes Hall'; Dunning indeed graduated at Cambridge in 1856 and was subsequently for a time a Fellow of his college.

As Remington and Beaumont relate, Dunning, who was something of an infant prodigy in entomology, was an exceptionally gifted individual who became a lawyer but retained a life-long interest in insects, becoming, at different times, both Secretary and President of what is now the Royal Entomological Society. The evidence provided by Hobkirk makes it almost certain that he was indeed the author of the manuscript records of Yorkshire Lepidoptera added to his copy of Rennie's *Conspectus*.

Two points require mention. There are discrepancies between Dunning's lists and that of Hobkirk. Ironically, one of these helps to confirm the origin of Hobkirk's record. The latter seldom gives dates, but for the Feathered Gothic *Tholera decimalis* (cited in both lists by an older name) he adds "One taken on grass at Storthes Hall, in 1847", this being the earlier of only two records, whereas the manuscript list says "At Storthes one specimen on grass in Sept. 1846". Both clearly refer to the same record with confusion of the year. More puzzling are instances where Storthes Hall species in Dunning's list are not cited from there by Hobkirk, and not because they were common in the Huddersfield area. Others do not appear at all. As W. E. Rimington, who has had much experience in these matters, and to whom I am indebted for helpful correspondence, remarks such problems are commonplace to those who deal with old records, the analysis of which is often less conclusive than one would wish. An explanation of these anomalies is likely to remain elusive.

The only other possible, but much less likely, contender for authorship of the manuscript notes appears to be Peter Inehbald, who could be eliminated if a specimen of his handwriting exists.

BOOK REVIEWS

British Plant Communities. Volume 4, Aquatic communities, swamps and tall-herb fens edited by **J. S. Rodwell**. Pp. 283, with figures, distribution maps & tables. Cambridge University Press. 1998. £24.95 paperback.

A paperback version of this important work, reviewed in *The Naturalist* **121**: 10 (1996), the modest price making it much more accessible to potential users. An essential tool for both professional and amateur botanists and ecologists engaged in teaching, research, fieldwork and conservation.

Thorne & Hatfield Moors Papers, Volume 4 edited by **Martin Limbert** and **Brian C. Eversham**. Pp. viii + 95, including numerous line drawings & 2 plates (1 in colour). 1997. Available from Martin Limbert, Museum & Art Gallery, Chequer Road, Doncaster DN1 2AE, price £4.00 (plus £1.00 postage) payable to Thorne & Hatfield Moors Conservation Forum.

The latest issue of this journal for the ecology, palaeoecology, history and conservation of the Humberside Levels is dedicated to William Bunting (1916-1995) and contains articles on recent discoveries and future management of this important natural history resource. Contributions on the following subjects are included: palaeoecological research (Buckland & Dinnin); a fossil insect assemblage (Whitehouse); an overview of the flora, vegetation and ecology (Eversham); a comparative study of the insect faunas of the two moors (Skidmore); site management and bird recording (Roworth); English Nature's management plan (Kohler) and English Nature's management progress (Roworth).

ENTOMOLOGICAL REPORT: DIPTERA (TIPULIDAE)

ROY CROSSLEY

There is a long history of interest in Tipulidae ('Craneflies', or 'Daddy-long-legs') in Yorkshire, the most prolific collector of an earlier generation being C. A. Cheetham who was actively recording throughout much of the 1920s and 1930s, and to a lesser extent in the following decade. Others followed, notably K. G. Payne in the 1950s, and P. Skidmore and W. A. Ely more recently. Other dipterists, some of them visitors to the county, have made contributions in varying degrees, and the consequence of all this past activity has been the amassing of an abundance of data spanning nearly eighty years.

Even so, as is the case with most insects, there are still many areas of Yorkshire in which tipulids have been under-recorded in the past, and this is highlighted in the report which follows. John D. Coldwell has, like myself, recently taken up the study of this family, working principally in the country to the west of Barnsley, while I have concentrated on the East Riding and north-east Yorkshire; the recording of tipulids in these areas has clearly benefited from having dipterists living within fairly close proximity.

Since 1995, eleven species have been added to the Yorkshire list, all of which are detailed below (†). The listed species include ten Red Data Book (RDB), and fourteen Nationally Notable (Nb) species, as provisionally recommended by Falk, (1991). More than fifty species are new to Yorkshire Vice-Counties and the most significant of these are included in this report (*). Unless otherwise indicated the records are those of J. D. Coldwell and R. Crossley.

I am indebted to Mr J. D. Coldwell for supplying his records, and to Mr A. E. Stubbs for much assistance with the identification of many of my captures.

- * *Ctenophora* (s.g. *Tanyptera*) *nigricornis* Mg. RDB3 (61) Skipwith Common 15/5/95 R.C. There are few Yorkshire records for this species, of which only three have been since 1948. Nationally it is widely distributed in mainland Britain, but only ten further post-1960 sites are known (Falk, 1991).
- * *Nephrotoma cornicina* (L.) (64) High Batts, Ripon, 8/8/96 R.C. A further specimen was found in my greenhouse at Wilberfoss (61), 7/8/97. The only previous Yorkshire records are Bedale (65), 1923, and Barmby Moor (61), 1936. The Bedale record may not be reliable.
- * *Tipula* (s.g. *Savtshenkia*) *griseescens* Zett. RDB3 (63) Little Don Valley, 12/4/97 J.D.C. Previous Yorkshire records are from classic Cheetham collecting sites in the Craven uplands, mostly in the 1930s.
- † *T.* (s.g. *S.*) *holoptera* Edw. Nb (62) Strensall Common, 9/10/96 R.C.; (*63) Winscar Reservoir, 27/9/97 J.D.C.; Langsett, 18/10/97 J.D.C. An autumnal species and probably under-recorded on that account.
- * *T.* (s.g. *S.*) *obsoleta* Mg. (61) Thornton Ellers, 10/10/96 R.C. Another autumnal species, previously recorded from Goathland, 1937, and Wykeham, 1979 (both VC62).
- * *T.* (s.g. *Yamatotipula*) *couckeii* Tonnoir in Goetg. & Tonnoir (62) Forge Valley Woods NNR, 12/8/97. Norton Ings (61), banks of river Derwent, 7/8/97 R.C. This species appears to be very localised in Yorkshire with few, widely scattered, localities across the county. All but one of the previous records are pre-1960.
- * *T.* (s.g. *Tipula* s.s.) *subcunctans* Alexander (61) Thornton Ellers, 10/10/96 R.C.; (*63) Winscar Reservoir, 8/10/97 J.D.C., Langsett, 18/10/97 J.D.C. An autumnal species and possibly under-recorded on that account.
- * *Triogma trisulcata* (Schum.) RDB3 (62) Seivedale Fen, Dalby Forest, 9/5/97 R.C.; (*63) Little Don Valley, 31/5/97 J.D.C. Previously recorded from such classic VC64

sites as Austwick Moss, Thieves Moss and Malham Tarn in the 1930s and 1950s; a species of seepages and upland streams with about six widely scattered post-1960 sites known in Britain (Falk, 1991).

- * *Phalacrocerca replicata* (L.) Nb (61) Skipwith Common, 25/4/97 R.C.; (*62) Strensall Common, 3/5/95 R.C. This species was reported from Malham in the course of the Y.N.U. Entomological Section's survey in the late 1950s. Since that time it has been reported from Delph and Thorne Moors (both VC63). The few remaining Yorkshire records are pre-1940 and from the western half of the county.
- Limonia* (s.g. *Limonia* s.s.) *dilutior* (Edw.) (61) Barmby Moor, 26/8/97 R.C. There are few Yorkshire records for this species: Spurn (61), 1928; Barnard Castle (65), 1980; Crummack Dale (64), 1983. It is often found in association with Broom (*Sarothamnus scoparius* (L.)).
- * *L.* (s.g. *L.*) *masoni* (Edw.) RDB3 (61) Bishop Wilton (chalk quarry), 4/6/96 R.C. Previously reported in Yorkshire from Lindrick, 1977; Harthill, 1984; Pot Riding Wood, 1986 (all in VC63). Nationally it is known from about a dozen post-1960 sites, mainly in Yorkshire, the Peak District of Derbyshire and the East Midlands; it appears to be chiefly associated with calcareous woodland edges and scrub (Falk, 1991).
- † *L.* (s.g. *L.*) *stigma* (Mg.) (62) Forge Valley Woods NNR, 16/7/97 R.C.
- * *L.* (s.g. *Dicranomyia*) *aquosa* (Verr.) Nb (63) Langsett, -/7/97 ('common by a waterfall') J.D.C. This appears to be a very scarce species in Yorkshire with only five widely scattered sites reported, the most recent being in 1954.
- † *L.* (s.g. *D.*) *daurica* (Kuntze) RDB3 (61) Hornsea Mere, 13/6/96 R.C. A south of England species known from about a dozen sites; its stronghold seems to be in the marshes of the Thames estuary (Falk, 1991).
- † *L.* (s.g. *D.*) *goritieiensis* (Mik) RDB3 (61) Sewerby Cliffs, 8/7/97 R.C. Known from about fifteen post-1960 widely scattered British coastal sites (Falk, 1991).
- * *L.* (s.g. *D.*) *lucida* (de. Meij.) Nb (62) Forge Valley Woods NNR, 16/7/97 R.C. A species of carr and wet woodland (Falk, 1991), it has been recorded previously in Yorkshire at Roche Abbey (63) 1979, and Sedbergh (65), 1938.
- † *L.* (s.g. *D.*) *sericata* (Mg.) (61) Bishop Wilton (chalk quarry), 4/6/96 R.C. A southern species associated with calcareous scrub in spring-time.
- * *L.* (s.g. *D.*) *stigmatica* (Mg.) Nb (62) Forge Valley Woods NNR, 7/9/96 R.C. The only previous valid Yorkshire record is for Waldondale (65), 1956. There are undated (pre-1930) reports from 'Ilkley, Harrogate' (both VC64).
- * *L.* (s.g. *D.*) *ventralis* (Schum.) Nb (61) North Duffield, 9/5/95 R.C.; (*62) Strensall Common, 9/10/96 R.C. The only previous Yorkshire record is for Thorpe Marsh (63), 1979.
- * *Thaumastoptera calceata* Mik Nb (63) Clough Wood, Gunthwaite, 6/7/97 J.D.C. An apparently rare species in the county, the only other record being from Crag Wood (64), 1927. A southern species reaching its northern limit in Yorkshire (Falk, 1991).
- * *Helius flavus* (Walker) (62) Seivedale Fen, Dalby Forest, 14/7/97 R.C.
- * *Pedicia* (s.g. *Analopsis*) *occulta* (Mg.) (62) Forge Valley Woods NNR, 15/6/95 R.C. There are few Yorkshire records for this species, the majority being pre-1960 and all of them in the western half of the county.
- * *P.* (s.g. *Ludicia*) *claripennis* (Verr.) (62) Dalby Forest, 23/5/97 R.C.; Blow Gill, Hawby, 2/10/97 R.C.
- * *Dicranota* (s.g. *Dicranota* s.s.) *bimaculata* (Schum.) (61) Specton Cliffs, 5/6/96 R.C.; (*63) Clough Wood, Gunthwaite, 23/4/97 J.D.C.

- † *Paradelphomyia* (s.g. *Oxyrhiza*) *dalei* (Edw.) (62) Forge Valley Woods NNR, 4/8/95 R.C.; Blow Gill, Hawnby, 2/10/97 R.C.; (*64) Birk Crag Wood, Harrogate, 13/8/96 R.C.
- P.* (s.g. *O.*) *nielsenii* (Kuntze) Nb (63) Winscar Reservoir, 8/10/97 J.D.C. The only previous Yorkshire record is Listerdale (63), in 1984.
- * *Limnophila* (s.g. *Idioptera*) *fasciata* (L.) RDB1 Strensall Common -/7/96 P. J. Chandler; 18/6/97 and 17/9/97 R.C. The previous Yorkshire records are: Allertorpe (61), 1936; Austwick, 1920-1942; Giggleswick, 1938; Cocket Moss, 1932 (all VC64). Since 1960 there have only been two reported occurrences nationally, both of them in Cheshire (Falk, 1991). The Strensall localities are pond margins with moss, and at one of the sites the species was found in quantity on floating bog-moss (*Sphagnum* sp.).
- * *L.* (s.g. *Phylidorea*) *squalens* (Zett.) (63) Langsett, -/7/97 J.D.C.
- * *Pilaria* (s.g. *Neolimnomyia*) *batava* (Edw.) (61) Barmby Moor, 23/6/97 R.C. This appears to be a rare Yorkshire species, the only previous records being Farnley (63), 1921, and Crag Wood (64), 1920.
- † *P.* (s.g. *Pilaria* s.s.) *fuscipennis* (Mg.) Nb (62) Forge Valley Woods NNR, 5/8/95 R.C.; Ashberry, 28/8/96 R.C.
- * *Gonomyia* (s.g. *Protogonomyia*) *alboscuteolata* (v. Roser) RDB1 (62) Forge Valley Woods NNR, 18/7/95, 12/8/97 R.C.; Ashberry, 10/8/97 J.D.C. The only previous Yorkshire record for this species is from Whitewell in the extreme west of VC64 in 1958. There are only two other post-1960 British sites known for this species (in Herefordshire and Worcestershire) (Falk, 1991). At the former site it is associated with mossy calcareous flushes in a woodland glade. The two recent Yorkshire sites have such habitats.
- † *G.* (s.g. *Idiocera*) *bradleyi* Edw. RDB2 (62) Cold Keld Slack, Cropton, -/7/96 (per A. E. Stubbs); (*61) Sewerby Cliffs, Bridlington, 8/7/97 R. C. Falk (1991) refers to three sites on the Yorkshire coast in the Scarborough and Bridlington districts in 1988, but with no further details. The only other recorded locality this century (for a species until recently thought likely to be extinct in Britain), is a coastal cliff slippage near Cardigan (1987) (Falk, 1991).
- * *Lipsothrix errans* (Walker) Nb (62) Forge Valley Woods NNR, 19/5/95 R.C. There is a 1962 record of this species from Whitewell (64); other records are from Austwick, Crag Wood and Ingleton (64), and Cautley (65), all in the 1920s.
- * *Erioptera* (s.g. *Ilisia*) *vicina* (Tonnoir) (64) Birk Crag Wood, Harrogate, 13/8/96 R.C. The only previous Yorkshire record is for Mulgrave Woods (62), in 1937.
- † *Arctoconopa melanopodia* (Lw.) RDB2 (61) Norton Ings, Malton, 9/5-16/6/97 R.C. There appears to be an established population on the banks of the river Derwent at this site. There are only four other known post-1960 localities in Britain, sandy riverbanks with shading trees being noted as a habitat (Falk, 1991).
- * *Scleroprocta sororcula* (Zett.) Nb (63) Little Don Valley, 31/5/97 J.D.C. There are only two previous county records: Bilsdale (62), 1921 and Colsterdale (65), 1981.
- * *Molophilus ater* (Mg.) (63) Wessenden Head, Meltham, 27/5/97 R.C., abundant amongst *Eriophorum* sp. There are several old records for this species at classic 'moss' sites in VC64 such as Austwick Moss; there is also a 1921 record from 'Ryedale' (62).
- * *M. bilhamatus* de Meij. Nb (64) Askham Bog, 12/5/95 R.C. The only other reported Yorkshire sites are Shirley Pool (1975) and Rushy Moor (1982) (both VC63).
- † *M. niger* Goetg. Nb (63) Clough Wood, Gunthwaite, 30/4/97 J.D.C.; (*62) Lady Spring Wood, Malton, 7/5/97 R.C. (*61) Norton Ings 9/5/97 R.C. (both localities by the banks of the river Derwent). There are only four other known post-1960 sites

nationally, the habitats being lushly vegetated stream-sides in woods (Falk, 1991).

* *M. ochrescens* Edw. (61) Hassacarr Pond, Dunnington, 30/9/97 R.C. Previous county records are: Marham and Bishopdale (undated, but probably pre-1940), and Baldersby, 1980 (all VC65); Mulgrave Woods (62), 1937. Recent additional VC62 records are Forge Valley Woods NNR, 5/8/95 and Low Wood, Hawaby, 28/8/96 (both R.C.).

† *M. pusillus* Edw. (63) Clough Wood, Gunthwaite, 1/10/97 J.D.C.

* *M. variispinus* Stary Nb (62) Forge Valley Woods NNR, 15/6/95 R.C. The only previous record for this species is from Rowton Beck in the extreme north-west of VC65 in 1981. A recent (1977) addition to the British fauna, with only six further sites recorded nationally. The species was formally described in 1971 (Falk, 1991).

REFERENCE

Falk, S. (1991). *A Review of the Scarce and Threatened Flies of Great Britain (Part 1)*. Research and Survey in Nature Conservation No. 39. Nature Conservancy Council, Peterborough.

Y.N.U. BRYOLOGICAL SECTION: ANNUAL REPORT 1996-1997

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Sectional meetings during 1996-1997 have been held as follows:

Spring 1996 – Penyghent Mountain (VC64) 4th May

Autumn 1996 – Woodlands in Silkstone area (VC63) 12th October

Spring 1997 – Pilmoor, near Thirsk (VC62) 3rd May

Autumn 1997 – North Cliffe and Hotham (VC61) 11th October

These are reported in the Bulletin of the Yorkshire Naturalists' Union. The summer meeting of the British Bryological Society was held in north-east Yorkshire (VC62) from 13th-20th August 1997 and significant records from that meeting have been included in this report. A complete list of species was compiled and a full account has been prepared elsewhere (Townsend, 1999).

RECORDS

The list below includes all new vice-county records and other records of note. Recorders' initials: JMB = J. M. Blackburn; TLB = T. L. Blockeel; PJC = P. J. Cook; WRD = W. R. Dolling; BBS = British Bryological Society. An asterisk indicates a new vice-county record or an amendment to the Census Catalogue.

Calypogeia neesiana: (62) 44/89. Fen Bog, Newtondale, BBS, Aug. 1997.

Calypogeia integristipula: (62) 44/69. On shaded sandstone, Blakey Gill, JMB, Sep. 1997.

Cladopodiella francisci: (62) 44/79. On peaty soil, Sod Fold Slack near Wheeldale Bridge, JMB, Sep. 1997.

Lophozia excisa: (64) 34/96. Humus on limestone rock ledge, New House Farm, Malham, TLB, Feb. 1997.

Tritomaria exsectiformis: (62) 44/59. On sandstone wall by Fangdale Beck, Bilsdale, JMB, Mar. 1997.

Scapania scandica: (62) 45/50. On peaty soil, Botton Head SSSI, Greenhow Moor, BBS, Aug. 1997.

Saccogyna viticulosa: (62) 44/79. On birch roots, Scar End Wood, Wheeldale, JMB, Sep. 1997. (62) 44/58. On limestone rocks in Castle Gill near Helmsley, JMB, Dec. 1997.

Moerckia hibernica: (62) 44/89. On wet rocks by waterfall, Saltergate Gill, Newtondale, BBS, Aug. 1997. This is the first sighting in the vice-county since 1898 at Coatham Dunes, Teesmouth.

Blasia pusilla: (62) 45/70. In ditch by old quarry, Glaisdale Head, JMB, Oct. 1997.

Apometzgeria pubescens: (62) 44/58. Large patches on limestone boulders, Peak Scar, Gowerdale, JMB, Mar. 1997. (62) 44/58. On limestone rocks, Ravens' Gill, Wass, JMB, Mar. 1997.

Marchantia polymorpha ssp. *montivagans*: (62*) 44/89. On steep hillside in Saltergate Gill, Newtondale, BBS, Aug. 1997.

Pleuroidium subulatum: (61) 54/32. On bare clay, 10 m alt., Smess Trackway, Hollym Carrs Reserve, PJC, Feb. 1997.

Distichium capillaceum: (62) 44/89. On tufa rocks by Havern Beck, Saltergate Gill, Newtondale, BBS, Aug. 1997.

Distichium inclinatum: (62) 45/52. In dune slack, Coatham, Redcar, JMB, Nov. 1997.

Dicranella subulata: (62) 45/60. On shale cliff, Grain Beck near Ingleby Moor, JMB, Feb. 1997. (62) 45/80. On shale cliff in old quarry, Eskdaleside, JMB, Nov. 1997.

Dicranum bonjeanii: (61). 44/85. In dense tufts on north-facing slope of calcareous grassland, Keasey Dale, Warter, PJC, July 1996.

Campylopus fragilis: (64) 34/96. Humus on limestone rock ledge, New House Farm, Malham, TLB, Feb. 1997.

Fissidens limbatus: (61*) 54/23. South-facing ditch bank, Elstronwick, WRD, Jan. 1997.

Fissidens crassipes: (62) 44/68. On limestone rocks in River Rye, Duncombe Park, Helmsley, BBS, Aug. 1997.

Fissidens rufulus: (62) 44/68. On limestone rocks in River Rye, Duncombe Park, Helmsley, BBS Aug. 1997. (62) 44/65. On wooden supports, River Foss, York, JMB, Sep. 1997.

Octodiceras fontanum: (64) 44/36. On wooden edging of canalised section of river, under road bridge, Boroughbridge, TLB, May 1997.

Tortula freibergii: (62). This nationally rare moss was first seen in the vice-county at Hayburn Wyke in 1992. Recently JMB has recorded its occurrence in seven further sites in the east of the vice-county, always on the vertical faces of sandstone rocks, usually in rivers and streams.

Gymnostomum recurvirostrum: (62) 44/89. On wet rocks by waterfall, Saltergate Gill, Newtondale, BBS, Aug. 1997. This is believed to be only the second record this century in the vice-county.

Hennediella stanfordensis: (63) 44/41. On soil on path in woodland on Magnesian Limestone, near Wentbridge church, TLB, Dec. 1997.

Barbula nicholsonii: (64) 44/36. On concrete wall of weir, by R. Ure, Boroughbridge, TLB, May 1997.

Weissia microstoma: (61) 44/85. Bare calcareous soil, Kcasey Dale, Warter, PJC, July 1996.

Tortella flavovirens var flavovirens: (61) 54/18. On soil on steep coastal slope, Filey Brig, TLB, Sep. 1996.

Campylostelium saxicola: (62) 44/58. On rocks in Flassen Gill near Cold Kirby, JMB, Mar. 1997.

Tetraplodon nutoides: (62) 44/59. On peat, Helmsley Moor, JMB, May 1996.

Mnium thomsonii: (64) 34/96. In crevice of limestone rock, New House Farm, Malham, TLB, Feb. 1997.

Orthotrichum sprucei: (64) 44/36. On tree bole by R. Ure, below the weir, Boroughbridge, TLB, May 1997.

Cryphaea heteromalla: (62) 45/40. On bridge stonework north of Carlton-in-Cleveland, JMB, Nov. 1996. Believed to be the first sighting in the vice-county this century.

Leucodon sciuroides: (62) 44/68. On limestone wall in Duncombe Park, Helmsley, BBS, Aug. 1997. First record in the vice-county for 70 years.

Heterocladium heteropterum var flaccidum: (62*) 44/57. On limestone rocks near stream, Wass Bank, JMB, Mar. 1997.

Thuidium plulibertii: (62) 44/78. In short turf, disused limestone quarry near Hutton-le-Hole, JMB, Oct. 1996.

Campylium calcareum: (62) 44/58. On limestone rocks in Great Cockerdale Wood, Oldstead, JMB, Mar. 1997.

Calliergon giganteum: (62) 44/89. In fen near railway line, Saltergate Gill, Newtondale, BBS, Aug. 1997.

Eurhynchium pumilum: (61) 54/13. Shady stream bank, Burton Constable, WRD, Jan. 1997.

Rhynchostegiella tenella: (61) 54/32. On decaying bricks, Patrington railway station, PJC, Jan. 1997.

REFERENCE

Townsend, C. C. (1999 in press). Summer Field Meeting, Yorkshire, 1997. *Bull. Br. Bryol. Soc.*

YORKSHIRE NATURALISTS' UNION EXCURSIONS IN 1997

Compiled by

R. COMLEY, J. PAYNE and K. G. PAYNE

GRASS WOODS, GRASSINGTON (VC64) 17th May (Carol A. Johnson)

Initially we met in the car park, where we were greeted by The Reverend Charles Trevor, Vice-President of the host society, the Upper Wharfedale Field Society, and Mrs Bronte Bedford-Payne, the Secretary. We then moved to Grass Woods in dull, damp conditions that continued through lunchtime. Later, however, the sun came out and we were able to enjoy the beauty of spring in Grass Woods, including a fine flowering of *Convallaria majalis*. The meeting for the presentation of reports was held in the Town Hall in Grassington where we were provided with tea and home-made cakes and biscuits. The meeting was chaired by last year's President, Mr Albert Henderson. Thanks were expressed to Mrs Carol Johnson, who had made the arrangements, to the host society and to the Y.W.T.

FLOWERING PLANTS (J. R. Comley)

The question arose immediately of the identity of the birches around the car park below Grass Wood. It rapidly became evident, walking into the wood that, though there were some clear *Betula pendula* present and some probable *B. pubescens*, the majority showed the variability to be expected from hybrids, with some aliens almost certainly planted, along with rather too many *Fagus* for this area.

The ground flora was typical of a light and airy, well drained, limestone wood in spring, with lots of *Mercurialis perennis*, *Hyacinthoides non-scripta*, *Viola riviniana* and *Arum maculatum*, together with a good showing of *Primula vulgaris*, both *Fragaria sterilis* and *F. vesca*, *Hypericum hirsutum*, *Alchemilla glabra* and, perhaps more strangely, *Teucrium scorodonia*, showing signs of the leaching that must have taken place.

Further up the slope there were *Ulmus* showing evidence of being affected by Dutch elm disease, a fair showing of *Convallaria majalis*, *Viola hirta*, *Corylus* and an increasing quantity of *Fraxinus* which is perhaps the more typical tree for this wood. *Orchis mascula*, *Conopodium majus*, *Geum rivale* and *Dryopteris filix-mas* were growing with a few *Acer*. Approaching the summit of the wood, the group came across *Malva moschata*, which seems to be found somewhat more frequently than some years ago (apparently it has been on this site for about 5 years). Here, a rather different flora was found, including lots of *Viburnum opulus*, *Sorbus aucuparia*, *Succisa pratensis*, a few *Primula veris*, *Ligustrum vulgare*, *Helleborus foetidus*, *Prunus padus*, *Rhamnus catharticus* and *Alchemilla xanthochlora*. We were shown a beautiful large colony of *Polygonatum odoratum*, with just a little scattered *Aquilegia vulgaris*. At a limestone promontory was a patch of *Hippocrepis comosa* of about one metre square that would not exist at all if it were not for the wire netting to keep the local rabbits at bay. In that vicinity was a nice natural 'rock garden' with *Fragaria vesca*, *Galium verum*, *Ajuga reptans* and *Helianthemum nummularium*.

By Gregory's Fort, where we dined, was a small group of *Iris foetidissima* and *Valeriana officinalis*.

After lunch, the group passed beyond the boundary wall to the short turf on limestone which naturally produced a totally different flora. There was *Primula farinosa* which (we were informed) had not been there long, *Carex caryophyllea*, *Sanguisorba minor*, *Primula veris* in good quantity, *Sesleria caerulea*, *Asplenium ruta-muraria*, *Asplenium trichomanes*, *Saxifraga tridactylites*, *Primula veris* x *vulgaris* and *Viola lutea*.

LICHENS (A. Henderson)

Although there are numerous records for the 10 km square [NGR 34/96] in which Grass Wood lies, few, if any, of them are particularised to Grass Wood itself. The morning and most of the afternoon were taken up in surveying the lichens of Lower Grass Wood, managed by the Woodland Trust. Parts of the woodland here are much more open in aspect than in Grass Wood proper, and the lichen flora achieves more developed cover; orange-tan crusts of *Chaenotheca ferruginea*, its dark, dusty, globose-headed fruits on their narrow pinlike stalks, and well formed grey thalli of *Pertusaria amara*, stippled with snow-white sorediate patches, catch even the casual eye. *Arthonia spadicea*, *Dimerella diluta*, *Lecania cyrtella*, and three Writing Lichens, *Graphis scripta*, *Opographa atra* and *O. herbarum*, with *Porina chlorotica*, *Schismatomma decolorans* and *Anisomeridium nyssaegenum*, were among the less easily observed species present. On a large holly a profuse *Xanthorion* community enclosed several thalli of *Bacidia arceutina*. Maybe the rarest find was a cluster of the tiny fruits of *Bacidia saxenii*, growing on the top of a wooden post in an enclosure fence. A brisk walk into Grass Wood towards the end of the afternoon quickly revealed a poorer corticolous flora, but *Psora lurida* and *Petractis clausa* on shady limestone outcrops gave a clear indication of the need for later visits.

PLANT GALLS (J. and K. G. Payne)

The galls of the mites *Eriophyes similis* and *E. geniothorax tipicus* were, as usual, plentiful on the edges of blackthorn and hawthorn leaves respectively. Restricted to the leaves of bird cherry, though, were the pustules caused by *E. padi*. Down-rolled leaf edges of the last host were caused by the aphid *Rhopalosiphon padi*. Fungus-induced galls were represented on violets by those of the 'smut' *Urocystus violae* and the rust *Puccinia violae*. The 'smut' causes elongated swelling on stems and leaves which break open to expose the black spore mass. As is usual with gall-causing rusts it is the aecial stage of the violet rust which permeates the host and causes gross swelling and distortion.

LEPIDOPTERA (Joyce Payne)

In the sunshine in the afternoon it was gratifying to see the rare geometric moth, Speckled Yellow, flying in the recently cleared woodland area of Upper Grass Wood. Several members had observed it in other areas of the reserve. It flies early in the season and feeds as a larva on wood sage. It is a Grass Wood speciality and found in very few other localities in Yorkshire.

The only butterfly seen was Green-veined White and the only other 'macro' moth, the Rivulet.

BIRDS (M. J. A. Thompson)

The morning was wet and overcast, with few birds to be seen within the Y.W.T. Reserve, other than a Great Spotted Woodpecker and overflying Curlew. However, those examining the nearby stretch of the River Wharfe for aquatic life, reported three pairs of breeding Common Sandpiper, a Goosander, Pied Wagtails and a few Sandmartins. Apparently, there has been a decline in the numbers of Sandmartin in the area. By early afternoon the weather improved and a number of members moved through to Bastow Wood. Within the open limestone woodland, more bird species were heard and seen. Two male Redstart were holding territories adjacent to the permissive path, along with a number of Chaffinch, a

Willow Warbler, a Robin and a Carrion Crow. On the edge of Bastow Wood a Meadow Pipit's nest was accidentally found, containing five eggs, and was left undisturbed. Cuckoo, which presumably parasitise the Meadow Pipit's nest were heard on two occasions. A recently arrived Wheatear was flitting around the perimeter wall of the wood, with a pair on Lea Green next to the wood. The yaffle of the Green Woodpecker could be heard in the distance.

The walk back to Grassington, via the grasslands above Bastow Wood, for the members' tea and meeting, produced further bird species, namely, Blue Tit, Pheasant, Mallard, Skylark, Lapwing, Black-headed Gull, Blackbird, Mistle Thrush, Starling, Greenfinch, Jackdaw and Swift. In all thirty species of bird were recorded.

MAMMALS (M. J. A. Thompson)

Evidence was found of Mole, Rabbit and Grey Squirrel.

FORCETT PARK (VC65) 8th June (Deborah Millward)

About 30 members attended at this outstandingly interesting venue, an ancient deer park with a lake and with some exceedingly old and large trees, perhaps planted in Elizabethan times. The meeting for the receipt of reports was chaired by Mr A. Henderson. Votes of thanks to the Heathcote family, owners of the estate and to Mr Manvers, owner of the limestone quarry and to Mrs Deborah Millward for arranging the meeting, were proposed.

THE ESTATE (A. Henderson)

Natural historians and historians of landscape and architecture alike can all find pleasure in Forcett Park and its neighbourhood. The house, originally Jacobean, has an impressive adjacent stable-block with arched coach-houses (where the tea meeting was held in shelter from a perfectly timed rainstorm that came down like a drop-scene at 4.30 p.m.). In the grounds by the 17-acre lake lies an overgrown grotto leading by a long tunnel to a vaulted icehouse, and there are many ancient parkland trees, some densely wooded areas and a fine old quarry. Some of the party, lunching on the terrace before the large disused ornamental fountain were lucky enough to enjoy the cordial, informative company of the lady of the house out for a midday stroll. An old dovecote with arcade below, standing in midfield by the entrance drive, seems so to have bewitched Nikolaus Pevsner that he describes the hexagonal building as octagonal, a rare lapse in his revered accounts of British buildings. In the immediately surrounding countryside the Brigantian revolt against the Romans has left impressive 1st-century AD earthworks, which some members were unable to resist visiting as rich icing on the day's sumptuous cake.

GEOLOGY (John B. Saunders)

Forcett Hall and its grounds are situated on the north flank of the Middleton Tyas anticline. This means that the rocks in their immediate vicinity are inclined to the north. Although the dip is shallow, it is steep enough for the rocks to become younger as you go north down the slope from the southern end of the estate through the park towards Forcett Hall.

All the rocks exposed in the area belong to the Namurian Stage of the Carboniferous period; this stage is still known in England as the Millstone Grit. The oldest horizon, the Great Limestone, marks the base of the Namurian Stage and is calculated to be approximately 330 million years old.

The high ground at the south end of the walled area of the estate is underlain by the Great Limestone. Down the slope to the north one passes up a section where the fields are underlain by mudstones which also occur below the lake in the valley bottom. The reason for the presence of standing water is partly because the mudstones are relatively impervious and also because there is a thin covering of fluvio-glacial deposits in the valley bottom.

From there, upslope towards the Hall, the higher ground, including the terraces and the ha-ha in front of the building, are sited on a thin bed of limestone named by the mappers as

the Bottom Little Limestone which is, in fact, not more than a few feet thick. This limestone must also influence the position of the caves associated with the Ice House.

The old quarries on the high ground south of the estate were visited by some members of the party to observe and record the richness of their ground flora. The old quarry faces show the Great Limestone to be a dense, dark-coloured limestone composed almost entirely of pure calcium carbonate in the form of calcite crystals. It would be classified as a diosparite, that is, a crystalline carbonate rock that contains many traces of fossils – in this case mainly stems of crinoids. Crinoids, which still exist in today's oceans, are marine, stalked animals that are popularly known as 'sea lilies' because they look much more like cup-shaped, stalked flowers than animals. They are extremely common on many of the Carboniferous limestones so well exposed in the Dales National Park.

An interesting feature of the area is the trace of an old rail track that ended at the quarries we visited. Its position is particularly well shown on the 1947 edition of Bartholomew's half inch topographic map, on which one can also see that this rail line had a western spur that connected with what must have been a larger quarry below Sorrowful Hill. The combined line skirted the western wall of the estate then continued northwards to join the Barnard Castle to Darlington railway line just east of Gainford. The same map shows another spur taking off southwards from the Barnard Castle to Darlington line and ending in the very extensive quarries that existed at what is now the Barton overpass where the A1 road becomes a motorway.

Why were these quarries important enough to warrant the very considerable expense of constructing railways that required cuttings, embankments and bridges? Both series of quarries are in the same limestone horizon (Great Limestone) within the Carboniferous. This is the nearest that such a limestone can be found to Darlington and, thus, to Teeside. What was it used for? It does not look of sufficiently high quality for building stone. However, it is very pure calcium carbonate, so my choice was that it was needed for industrial use. Having laboriously worked this out I then discovered a reference in Jane Hatcher's "Richmondshire Architecture" to a single track railway passing close to the estate "taking limestone from the extensive quarries to Middlesbrough ironworks"!

FLOWERING PLANTS (D. R. Grant)

The area visited lies on the Yorkshire series of rocks of the Carboniferous period, which consists of limestone, sandstone and shales. The disused limestone quarry had a number of open areas which were carpeted with *Primula veris* and *Lotus corniculatus*. In very dry rocky areas there were *Sherardia arvensis*, *Aplianes arvensis* and *Geranium columbinum*. At the edge of the trees were a few plants of *Agrimonia eupatoria* and *Clinopodium vulgare*. A damp area had a few *Dactylorhiza purpurella*. There were many colonies of *Rubus caesius* and a large stand of *Rubus prinosus*. Several garden plants had become established in one area, these were *Ornithogalum angustifolium*, *Rubus armeniacus* and *Vinca major*. The old railway line held several colonies of *Primula vulgaris* still in flower. The roadsides between the quarry and the estate yielded *Prunus padus*, *Rubus dasycyphyllus*, *R. echinoides* and *Carduus crispus*.

The estate is walled and contains many fine old trees representing several genera. There is much grassland and some small woods and a large lake. The inlet end of the lake had many of the usual marginal aquatic plants. There were several sedges, *Carex rostrata*, *C. disticha* and *C. paniculata*, which had both large old tussocks and younger plants. The rarest plant here was *Ranunculus lingua*, unfortunately not in flower. Many plants of *Dactylorhiza fuchsii* and *D. praetermissa* were also reported. Although there were many birds on the lake, after some searching, some colonies of *Potamogeton berchtoldii* were located at the SE end.

BRYOPHYTES (John Blackburn)

The early part of the day was spent in the grounds of the hall. The grassy ground contained much *Brachythecium rutabulum*, *Eurhynchium swartzii*, *Rhytidiadelphus squarrosus*,

Plagiomnium rostratum and *P. undulatum*, with *Dicranella heteromalla*, *Eurhynchium praelongum*, *Fissidens bryoides*, *F. taxifolius* and *Mnium hornum* on barer ground. *Lunularia cruciata* was seen on damp backside soil. Several old elder trees were rewarding with *Orthotrichum affine*, *Zygodon conoideus*, *Metzgeria furcata* and the less common *M. fruticulosa*. *Campylopus introflexus* was growing on several birch trees. *Plagiomnium affine* was common on lakeside soil.

The quarry had a mixture of acidic and calcicolous mosses. The sandy soil had abundant *Brachythecium albicans*, with the more grassy areas producing *Calliergon cuspidatum*, *Eurhynchium striatum*, *Pseudoscleropodium purum* and *Rhytidiadelphus squarrosus*. A steep bank was particularly interesting with *Cirriphyllum piliferum*, *Hylocomium splendens* and *Rhytidiadelphus triquetrus* all present. The limestone rocks had *Ctenidium molluscum*, *Neckera complanata*, *Schistidium apocarpum* and *Tortella tortuosa*. Altogether a total of 53 species was recorded.

LICHENOLOGY (M. R. D. Seaward & A. Henderson)

Forcett Hall and the surrounding area were interesting from a lichenological point of view, but it proved necessary for us to work diligently in numerous habitats in order to achieve a creditable total of 92 species. The Jacobean Hall itself, remodelled c. 1740, and adjoining buildings supported a relatively low diversity of lichens, so that the structure of the derelict fountain and the coping and vertical stonework of the ha-ha bounding the formal garden attracted much of our attention. Other stonework in the park was less rewarding, and the grotto described in the guide as 'three arches of unmortared cyclopien masonry overhung mysteriously with vegetation' did not unfortunately include lichens in the latter category. Mature trees in and around the estate supported 26 epiphytic species, but foliose lichens were never found in plenty. A visit to the nearby St Cuthbert's, a late 12th century church extensively rebuilt in 1859, furnished us with only six additional saxicolous species. Further travels took us to the Stanwick fortifications where a small area of exposed stonework supported a few extra species. Stanwick church, nearby trees and a local quarry provided habitats for further records. The highlight of the day was *Thelomma ocellatum*, a new record for Yorkshire, found on a partially shaded horizontal fence rail by the lake in Forcett Park.

VEGETATION TYPES (John A. Newbould)

The allocation of the woodland areas to the National Vegetation Survey classification proved interesting. In the region of Fox Covert Wood the woodland type best fitted W9 *Fraxinus excelsior* – *Sorbus aucuparia* – *Mercurialis perennis* wood, i.e. the typical sub-community with *Fraxinus excelsior* and *Brachypodium sylvaticum*. The woodland in the triangle to the south of Forcett Hall fitted no classification. The woodland was principally *Acer pseudoplatanus* – *Fraxinus excelsior* with old trees represented by *Castanea sativa*, *Taxus baccata* and the occasional *Quercus*. The ground flora was principally composed of *Urtica dioica*, *Geum rivale*, *Galium aparine*, *Silene dioica*, *Rubus iruticosus* sp.; *R. idaeus* and *Dryopteris dilatata* were rare.

The lakeside had some tree cover which fitted NVC type W6 *Abus glutinosa* – *Urtica dioica* woodland but was the *Salix fragilis* sub-community. Present in the marsh at the lakeside were small areas type S6 *Carex riparia* swamp, S7 *Carex acutiformis* swamp and S12 *Typha latifolia* swamp (typical sub-community). The large beds of *Iris pseudacorus* did not fit into any of the standard vegetation types. Most of the grassland within the park was grazed quite short and was type MG7 *Lolium perenne* leys.

LEPIDOPTERA (J. A. Newbould)

In Forcett Park woods to the south Silver Ground Carpet was extremely common flying from the nettles. In spite of temperature around 19°C, few insects were flying due to a westerly wind which brought a heavy downpour of rain in the afternoon. Walking across a grazing meadow adjacent to the lake we saw a single Chimney Sweeper. Through the day

both Large White and Small White Butterflies were present through the area. Two Red Admiral were seen in the Rhododendron park.

A single Speckled Yellow Moth *Pseudopanthera macularia* was observed on entering the quarry area of Fox Covert Wood. Orange-tip Butterfly was quite frequent in the glades of the quarry and the grassland moth *Crambus lathoniellus* was frequent in the glades. I also found a Meadow Grasshopper in this area.

COLEOPTERA (R. J. Hunt and K. G. Payne)

The morning was spent in the woodland area next to the house known as the wild garden. Sieving a pile of grass cuttings we found the Carabid *Notiophilus biguttatus* and a few small staphylinids. Sweeping the vegetation at the path side we found various soldier beetles and several specimens of the Cardinal Beetle *Pyrochroa serraticornis*. Searching under logs and stones, two more species of Carabids were found, *Nebria brevicollis* and *Pterostichus madidus*, both being common species.

After lunch, the lakeside was worked. Under stones on the lakeside we found the Carabid *Calathis fuscipes* and the Click Beetle *Athous haemorrhoidalis*. Beating the willows gave us the Chrysometid *Chalcoides fulvicornis*. Despite several attempts at using the water net in the lake, no aquatic beetles were found.

In all, 17 species of beetle were taken. The most interesting were probably the bright red Cardinal Beetle, *Pyrochroa serraticornis* with larvae in rotten wood, and *Batophilus rubi*, a rather locally distributed flea beetle, feeding on brambles.

MOLLUSCA (A. A. Wardhaugh)

Five freshwater species were recorded from Forcett Park lake, with *Lymnaea auricularia* being the most notable. This snail is sparsely distributed in northern parts of Yorkshire; there are specimens of this snail in the collection of Bernard Lucas taken from this site on 31st October, 1928.

BIRDS (K. S. G. Good)

Thirty-five species were noted during the meeting: Great Crested Grebe, Black-necked Grebe, Mute Swan, Canada Goose, Shelduck, Widgeon, Teal, Mallard, Tufted Duck, Coot, Lesser Black-headed Gull, Stock Dove, Woodpigeon, Turtle Dove, Swift, Sand Martin, Swallow, House Martin, Wren, Dunnock, Robin, Blackbird, Song Thrush, Garden Warbler, Blackcap, Chiffchaff, Willow Warbler, Spotted Flycatcher, Blue Tit, Nuthatch, Tree-creeper, Jackdaw, Rook, Carrion Crow, and Chaffinch.

CHICORY FARM, ALLERTHORPE (VC61) 5th July (Peter J. Cook)

By kind invitation of Dr and Mrs Moll, eighteen members gathered to see this private nature reserve, consisting of disused gravel quarries being left to speciate naturally except for some tree and shrub planting. Situated so close to Allertorpe Common most of us expected to find a regenerating heath vegetation around a large expanse of fresh water. Instead, we found mounds of chalk and flint 'scree' mixed with only a small proportion of sand, forming ridges between numerous ponds of different size, shape and depth, and small marshy areas. There has been some introduction of soil, mainly washings from a vegetable packing factory. The site is yet very young, but has potential to develop into a reserve very worthy of another visit in the future. It was felt that development of the aquatic fauna and flora is being inhibited by water fowl and there is a developing problem of shading at the water margin by willows. The most frequently heard comments were of compliment to the owners for allowing this large area of land to develop for nature conservation interest.

The company assembled for refreshments and meeting in the local Inn. Mr Albert Henderson took the Chair, nine affiliated societies answered the roll call and reports were given. The Chairman closed the meeting after expressing thanks to Dr and Mrs Moll and to the Divisional Secretary for making the arrangements.

FLOWERING PLANTS (Donald R. Grant)

The area visited was an old gravel pit which had been partially landscaped. The gravel was a mixture of chalk, flint and other materials, which was surprising, as the area around Allertorpe is very sandy. The soil on the reserve is nutrient poor and there were many stony, barren areas having dwarf plants. There were many introduced trees, shrubs and aquatic plants throughout the reserve. The grassy parts had many colonies of *Primula veris*, and several *Geranium* species, the most notable being *G. pusillum*. Barren areas had much *Pilosella officinarum* and a little *Catapodium rigidum*. The damper grassy areas had colonies of *Dactylorhiza fuchsii* together with a few scattered clumps of *Calamagrostis epigejos*. Areas where soil had been imported had *Dipsacus fullonum*, a *Lactuca* sp., *Conium maculatum* and *Rubus armeniacus*. Marginal aquatic plants were represented by *Scrophularia auriculata*, *Carex pseudocyperus*, *Typha latifolia* and *T. angustifolia*, together with *Eleocharis palustris*. Aquatic plants were few and in small quantity due to the large number of ducks and geese on the reserve, but *Persicaria amphibia*, *Hippuris vulgaris*, *Myriophyllum spicatum*, *Zannichellia palustris* and *Chara vulgaris* were collected. The reserve hedgerows had *Rubus eboracensis*, *R. caesius* and *Rosa caesia*.

FUNGI (Michael Sykes, J. Payne and K. G. Payne)

A total of 13 fungal species were identified in the mixed plantation vegetation. It is probable that *Suillus grevillei* and *Russula aeruginea* were introduced with *Larix decidua* and *Betula* sp. respectively. Agaricales among grass were *Agrocybe praecox*, *Calocybe carne*, *Coprinus lagopus*, *Hygrocybe conica*, *Lepiota felina* and *Panaeolus foenisecii*. Members of the Uredinales were *Melampsora capraearum*, *Melampsorella symphyti* and *Puccinia punctiformis*. Other species were ergot (*Claviceps purpurea*) and *Podosphaera clandestina*. Parasitic fungi seemed scarce and it is tempting to wonder whether they had not yet caught up with their hosts in recent colonisation of the site. *Arrhenatherum* was abundant but a good deal of searching was needed before *Ustilago segetum* var. *avenae*, the usually common smut, was found. Eleven other species of parasitic fungi were found. Probably the most interesting was *Taphrina sadebachi* causing yellowish blisters, usually less than 10 mm diameter, on alder leaves. The cause of the coloured bloom is the presence on the leaf surface of a palisade of asci of the fungus. Also interesting were teasel plants which bore the powdery mildew *Sphaerotheca dipsacearum* and the downy mildew *Peronospora dipsaci*.

LICHENOLOGY (M. R. D. Seaward and A. Henderson)

Our visit to Chicory Farm Nature Reserve proved disappointing in terms of lichens, mainly due to the immaturity of most of the habitats studied. Epiphytic species were limited to a few crusts of common species, but a single *Salix* bore a few thalli of *Xanthoria polycarpa*. Cementwork, stones and compacted soils supported 19 species. Most pleasing of our saxicolous finds was the calciphile *Petractis clausa* on imported limestone and flint shards by one of the channelled pools, the well developed cruciform apothecia proof of its establishment as an immigrant species. Fortified by two helpings each of strawberries and cream at a local fête in the Allertorpe vicarage gardens, we found greater interest in the churchyard surrounding the neat Victorian church nearby. Although, due to its relatively recent age, it supported only a limited lichen flora, the older gritstone memorials and churchyard wall were lichenologically much more rewarding: in all, 51 saxicolous species were recorded.

PLANT GALLS (David Savage)

A total of 18 different plant galls were seen. There were no rare gall-inducing agents recorded and many of the host plants were recently planted. This applied in particular to the few oak trees on the site. As these oak trees mature, gall inducing wasps should move in from populations which exist now around Beverley.

LEPIDOPTERA (Joyce Payne)

Although the owners have listed 19 butterfly species on this site, only the Ringlet was plentiful on the day of this meeting. The only other imago seen was a Meadow Brown. There were, however, large numbers of Peacock larvae on nettles. Among moths, the Arctiidae were represented by large numbers of Cinnabar larvae of varying sizes on ragwort as well as by a perfect insect. A few larvae of Mullein Moth were seen on figwort. Three species of the Geometridae were seen, notably Barred Straw, Shaded Broadbar and Yellow Shell. It was good to see so many of the finely patterned Yellow Shell as it has been in low numbers in recent years. The Mother of Pearl, a nettle-feeding large 'micro', was seen and the Lesser Reedmace heads had fluffed out, but not disintegrated, showing that *Limnecia phragmitella* had been at work. The large white plume moth, *Alucita pentadactyla*, was reported.

OTHER INSECTS (J. D. Caldwell and A. Grayson)

Activity mainly centred around the older parts of the marsh at the far side of the reserve, where, on the first day of warm, sunny weather for some time, many insects were in evidence. Although no real rarities were found, it was felt that continued recording would yield worthwhile results. Amongst the Diptera, the soldierflies *Oxycera morrisii* and *Nemotelus nigrinus* were found, two distinctive sciomyzids *Trypetoptera punctulata* and *Coremacera marginata*, and possibly of most interest, the rather scarce dolichopodid *Sciapus longulus* which was quite common in one area of long grass. The common horseflies *Chrysops relictus* and *Haematopota pluvialis* were both present in small numbers. A single example of the curiously humped, dark 'picture-winged' fly *Platystoma seminationis* was also taken. On the gravelly mounds could be swept the stilt-legged fly *Micropeza corrifolata*.

Amongst the Odonata, *Libellula quadrimaculata* (reported also by Ray Eades) was well established and conspicuous around the many ponds. *Enallagma cyathigerum* and *Odynerus spinipes*, *Symmorphus nutinensis*, *Crabro cribrarius* and *Oxybelus uniglumis*, the ruby-tail wasp *Omalus auratus* and the distinctive sawflies *Tenthredo scrophulariae* and *Croesus latipes* were noted, the latter with its distinctively dilated hind tibia, characteristic of the genus, concluding an interesting day in an unusual and developing habitat.

BIRDS (R. A. Eades)

The reserve was observed to hold very healthy populations of warblers including Common Whitethroat and Sedge Warblers, both of which have suffered from intensive farming here and drought on the African wintering grounds. Willow Warblers and Reed Warblers were heard singing. Insects flying over the ponds attracted feeding Swallows, Swifts and House Martins. A Heron flew overhead, a Yellowhammer sang from the boundary hedge and Reed Buntings were feeding young. A male Linnet was probably on territory. At least one pair of Greylag Geese had three healthy goslings.

SCAR AND CASTLEBECK WOODS (VC62) 19th July (J. M. Blackburn)

A party of twenty assembled at Castlebeck Farm with the kind permission of the farmer on a fine day which became quite hot as the day progressed. The prime aim of the meeting was to survey Scar and Castlebeck Woods, owned by the Woodland Trust. Permission had also been granted by the owner of Jugger Howe Moor, Sir Frederick Strickland-Constable, to inspect the moor to the north-west of the woods.

Most members spent the morning in the wooded area. A fine sight as we moved down the track to the valley bottom was a roe deer in an open space in the wood below. Frogs were seen during the day in several places, along with moles and rabbits, with evidence of badgers. At least twenty-three species of birds were recorded and a Common Hawker. After lunch a large group proceeded north-westwards up Jugger Howe Beck and eventually reached an area of base-rich marsh which received much attention and proved most

rewarding. An adder was seen as the party returned from the moor.

Fifteen members, representing 14 affiliated societies, met at the Flask Inn for drinks and the meeting, which was chaired by Mr Les Magee. Apologies were received from Messrs Henderson, Lindley and Savage. Reports were given and thanks were expressed by the Chairman to the landowners, the farmer and the proprietor of the Flask Inn. Dr Margaret Atherden proposed a vote of thanks to the Divisional Secretary.

BRYOPHYTES (J. M. Blackburn)

A wet flush by the track down to the woods provided a good start to the day, with *Bryum pseudotriquetrum*, *Calliergon cuspidatum*, *Dicranella rufescens*, *Philonotis fontana*, *Pohlia carnea* and *P. wahlenbergii*. Soil and rocks on the backside banks in the woods had the three common *Calypogeia* species, *C. arguta*, *C. fissa* and *C. muelleriana*, along with *Cephalozia bicuspidata* and *Diplophyllum albicans*.

Grassy hillsides in Scar Wood had good quantities of *Hylocomium splendens*, *Dicranum majus* and *Rhytidiadelphus loreus*, with pads of *Leucobryum glaucum* in several places. Fruiting *Fumaria obtusa* was growing by the side of some wooden steps on the track, whilst *Dicranum montanum* was seen on a log in the birch carr, along with *Tetraphis pellucida* and *Thuidium tamariscinum*. *Dicranum montanum* was recorded in the vice-county for the first time only three years ago but has been seen in several places since then. *Marsupella emarginata* was growing on rocks. Rocks in the beck had *Dichodontium pellucidum*, *Hyocomium armoricum*, *Racomitrium aciculare* and *Scapania undulata*.

The afternoon was spent examining the beck and adjacent ground on Jugger Howe Moor north-west of the woods. Five *Sphagna* were recorded, *S. auriculatum* var. *auriculatum*, *S. capillifolium*, *S. palustre*, *S. recurvum* var. *nucronatum* and the deep crimson *S. magellanicum*, an infrequent species in the vice-county. A base-rich marsh had *Campylium stellatum* var. *stellatum*, *Drepanocladus revolvens* and *Aneura pinguis*. *Nardia compressa* was on rocks in the beck, whilst *Fumaria obtusa* was seen again growing on the banks. *Barbilophozia attenuata* was also seen on rocks in the area. A total of 86 species was recorded on the day.

FLOWERING PLANTS (D. R. Grant)

The area lies on the Jurassic series of rocks which are represented here by sandstones. These give rise to an acid soil; however, here and there this sandstone is calcareous and gives rise to pockets of alkaline soil, which carry many calcicolous plants. Members spent the morning in Castle Beck Woods which are comprised of sessile oak and birch. The plants of interest here were *Luzula pilosa*, *Melampyrum pratense*, *Carex laevigata* and *Dryopteris carthusiana*. Open areas had *Hypericum pulchrum*, *Stellaria graminea*, and *Stachys officinalis*.

After lunch, members followed the beck upstream on to Jugger Howe Moor. There was much *Myrica gale* growing with *Erica tetralix* and *Narthecium ossifragum*. Drier areas had *Carex pilulifera*, *Trichophorum caespitosum*, *Vaccinium vitis-idaea* and *Carex binervis*. A large bog fed by springs from the hillside had a large selection of unusual plants. The very wet areas had *Carex rostrata*, *Eriophorum angustifolium*, growing with *Potamogeton polygonifolius*, *Pedicularis palustris* and *Carex echinata*. *Drosera rotundifolia* and *Pinguicula vulgaris* were frequent. There were many colonies of *Schoenus nigricans*. The bog is the home of *Dactylorhiza traunsteineri* which grows with *D. maculata* subsp. *ericetorum*. There are also some fine clumps of *Eriophorum latifolium*. Other taxa of note were *Anagallis tenella* and *Carex viridula* subsp. *brachyrrhyncha*.

PLANT GALLS (D. P. Savage)

There were no rare galls recorded at the time of the visit, but the oak trees in the valley on an autumn or spring visit would be likely to add to the list. Within Castlebeck Wood, the following galls were recorded. On *Alnus glutinosa* there were four galls, three caused by Gall Mites, *Eriophyes brevitarisus*, *E. inangulis* and *E. laevis*, and one gall caused by the

fungus *Taphrina tosquetii*. On *Betula* sp. was the Gall mite *Aceria calycophthira*. *Crataegus monogyna* had a Gall Mite, *Vasates epiphyllus*, a Gall Midge, *Dasineura fraxini*, and a Psyllid, *Psyllopsis fraxini*. The Gall Wasp, *Cynips disticha* and the Gall Mite *Eriophyes sorbi*, were found on *Quercus* and *Sorbus aucuparia* respectively.

LEPIDOPTERA (J. Payne and J. A. Newbould)

Although butterflies were not in abundance, 12 species were recorded during the meeting. Four of these were rarely seen species, notably Green Hairstreak, Dark Green Fritillary, Small Pearl-bordered Fritillary and Large Heath, finding all four being a thrill. No 'white' was seen, and only one Small Tortoiseshell was reported. The other species recorded were Small Skipper and Large Skipper, Common Blue, a single Wall, Meadow Brown, Small Heath and Ringlet. Six species of geometric moths were seen, the most noteworthy being Dingy Shell and Latticed Heath. A female Drinker laid a few eggs before it was released. Narrow-bordered Five-spot Burnet moths were feeding on the flowering scabious on the road verge. The following were recorded from the roadside, principally by Mrs Joyce Payne and Mr J. A. Newbould. Small Copper (*Lycaena phlaeas*), Meadow Brown (*Maniola jurtina*), Ringlet (*Aphantopus hyperantus*), Small Skipper (*Thymelicus sylvestris*), Large Skipper (*Ochlodes venata*), Small Tortoiseshell (*Aglais urticae*), Small Pearl-bordered Fritillary (*Boloria selene*), Small Heath (*Coenonympha pamphilus*), Small White (*Pieris rapae*), Common Blue (*Polyommatus icarus*), Wall (*Lasiommata megera*) and Dark Green Fritillary (*Argynnis lathonia*) near the roadside.

The following moths were recorded from the woodland area. The Grass Moth (*Agriphila stramineella*) was extremely common. Latticed Heath (*Semiothisa clathrata*) was seen in the long grass near the road. A single Chimney Sweeper (*Odezia atrata*) was seen on the path down to the woodland. Mrs Payne recorded Dingy Shell Moth (*Euchoeca nebulata*) in the Alder woodland. This species is quite local, but has been recorded in the Dalby Forest. Mrs Payne also collected a Large Twin-spot Carpet (*Xanthorhoe quadrifasiata*). This moth has only been recorded in Yorkshire since 1978 and is gradually moving its range further north along the east coast. Other more common moths included the Dark Marbled Carpet (*Chloroclysta citrata*), Green Oak Tortrix (*Tortrix viridana*) and *Olethreutes lacumana*. On Jagger Howe Moor we recorded six butterflies, Green Hairstreak (*Callophrys rubi*), Small Heath, Gatekeeper (*Pyronia tithonus*), Large Skipper, Common Blue and Ringlet. Moths included a single Drinker (*Philudoria potatoria*), Silver Y (*Autographa gamma*), *Epiblema angustana* and *Glypliapterix thrasonella* on rushes.

MOLLUSCA (D. Lindley and A. A. Wardhaugh)

Both authors of the report decided that the base-rich flush containing *Schoenus nigricans* would be an ideal spot to search for mollusca. With this in mind, they spent the morning searching in vain for it and instead settled for a flush in the area of grid SE947984. This proved an excellent area producing records of 11 species. This flush obviously had some lime content due to the presence of certain species of both plants and molluscs. It was interesting to find *Acicula fusca*, a species often associated with old woodland and very local in occurrence. *Leiostylis anglica* in particular was found in large numbers. This species is generally north-western in its British distribution, but is regularly found in the area of the North Yorkshire moors in suitable damp habitat. There were two *Vertigo* species found within this flush and it may be interesting to note that their numbers were roughly in the ratio 5: 1, favouring *Vertigo substriata* over *Vertigo pygmaea*.

Following lunch, the authors split up, Tony Wardhaugh paying a brief visit to Scar Wood. This apparently acidic site had a sparse molluscan fauna with just seven species encountered. Of these, the most notable was the snail *Zonitoides excavatus*, several of which were found beneath a small Birch log. This is a calcifuge with a predominantly western distribution in Britain and is scarce in VC62. Interestingly, it was found during a Yorkshire Conchological Society visit just 6 km away at Ramsdale on 6th May 1989.

During the afternoon David Lindley followed other members at the meeting to the flush

containing *Schoenus nigricans* (SE947984), which had a similar fauna to the flush at SE947984 described above. Two additions were: *Columnella edentula*, a species often found in association with base rich flushes (a single specimen); and the main find of the day which is in fact the most notable molluscan discovery in Yorkshire this year, a single specimen of *Vertigo geyeri*. This species is only recorded from one other site in Yorkshire; the other sighting was during a YNU excursion to the Low Dalby area in 1994. Its range within Britain is limited to a handful of sites on the North Pennines, Anglesey and Scotland. In all localities it has an associated flora which includes *Schoenus nigricans*.

BROCKADALE (VC63) 9th August (Adrian O'Vastar)

The day of the meeting turned out to be a really hot one and persuaded some members to remain, as far as possible, in the shade of Brockadale Plantation. We were much indebted to Mr Adrian O'Vastar, Chairman of the Management Committee of this Y.W.T. Reserve, for acting as our guide and informant.

FLOWERING PLANTS (D. R. Grant)

The area visited is a small valley, situated on the Magnesian Limestone series of rocks, which runs east from Wentbridge to Kirk Smeaton. The River Went flows down the valley and is the home to *Potamogeton pectinatus* which grows at Hunters Bridge. The woodland has *Elymus caninus* growing with *Brachypodium sylvaticum* and *Circaea lutetiana* together with some ground cover of *Rubus vestitus*. Leached areas had *Teucrium scorodonia* and *Rubus dasyphyllus*. The woodland edge is the home of *Dipsacus pilosus* and it was pleasing to see that it was increasing its range in the valley, members finding it in three new stations. There are also large plants of *Phyllitis scolopendrium*, a fern which is scarce on the Magnesian Limestone. The short turf on the valley sides is the home of several unusual plants, *Astragalus danicus*, *Campanula glomerata*, *Hypericum montanum*, in bare openings between the clumps of *Bromus erecta* and *Brachypodium pinnatum*. *Ononis repens* and *Inula conyza* occur here too. The area near the crags had *Malva moschata*, *Catapodium rigidum*, and *Helianthemum nummularium*. On the face of one crag was *Parietaria judaica*.

The roadside hedgerows had *Rhamnus cathartica*, *Ballota nigra*, *Ligustrum vulgare*, together with *Rubus warrenii*, *Bryonia dioica* and *Tamus communis*. The area is also home to some large colonies of *Rubus ulmifolius*, a thermophilous plant which uses the Magnesian Limestone to grow north of its usual northern limit, being a southern and eastern species in England. Other brambles in the valley were *Rubus eboracensis* and *Rubus newbouldii*. On the edge of a cornfield, *Legousia hybrida* was discovered.

A number of other rare species, which flower earlier, were not seen due to the height of the general herbage, but no doubt still grow in this valley.

PARASITIC FUNGI (J. Payne and K. G. Payne)

Only 4 species of rust and 4 of powdery mildew were noted. Two of the rusts, *Puccinia glechomatis* on *Glechoma hederacea* and *P. annularis* on *Teucrium scorodonia* are of rather local distribution in Yorkshire and perhaps most frequent in the dales of the North Yorkshire Moors. As in 2 out of 3 other rust species known on *Lamiaceae* in Britain, no aecia or urodinia are produced.

The powdery mildew *Erysiphe galii* tends to produce abundant mycelium and conidia particularly on the hooked fruits of *Galium aparine* (Cleavers). One wonders to what extent this serves to distribute the mildew. One area of Cleavers in Brockadale Plantation looked as if it was dotted with bright, white fruits.

LICHENS (A. Henderson)

The woodland of the reserve is dense and shows signs of subjection to airborne pollution from several surrounding sources, the major roadway to the west, the neighbouring power stations and surrounding agricultural activities in general. As part of an overall survey of

lichens on Magnesian Limestone, Gilbert (*Lichenologist* [1984] **16**: 31-43) recorded 44 taxa on that substrate in Brockadale. Most notable was a splendid colony of *Lecanora campestris* subsp. *dolomitica*, a taxon known only from the Magnesian Limestone, man-made substrates and dust-contaminated bark. Inspection of the colony showed it was clearly continuing to flourish. Not unexpectedly, a mere 5 species were added to Gilbert's list for the Magnesian Limestone: *Catapyrenium squamulosum*, *Catillaria lenticularis*, *Collema crispum*, an indeterminate *Leptogium* species and *Verrucaria muralis*.

LEPIDOPTERA (J. Payne)

On this very favourable recording day we noted 16 species of butterfly. Single Small and Large Skippers were seen, Large White was common, Small White was fairly common but Green-veined White was much scarcer. Brimstone was observed on three occasions and both sexes were present. Small Copper, Common Blue and Holly Blue were noted. Only a single Small Tortoiseshell was seen and Peacock was by far the most numerous and noticeable in the flowery glades of the higher wood. Four Commas were noted, one of which was a pale, bright female. In the deep woodland an abundance of Speckled Woods were flying in and out of the dappled scene. A few Walls were reported and Meadow Browns were still about in a shabby condition. Some members were lucky enough to see three Marbled Whites which were thought to have bred on the site. Moths were very scarce and the only 'macros' noted were Chimney Sweeper, a very faded Yellow Shell and Silver Y. Larvae of both butterflies and moths were notable only for their absence.

MOLLUSCA (A. Norris)

The Brockadale Nature Reserve contains one of our rarest British snails, a species that is thought to be on the verge of extinction in Britain. It was important, therefore, to try and establish the continued existence of this species in its only remaining Yorkshire site. *Truncatellina cylindrica* was first recorded from the area of Went Vale by Charles Ashford in 1851, but it was Dr L. Lloyd Evans who, in 1975, re-found this rare species in the quarry in Brockadale. Since that date, less than 10 specimens have been found. It was a great delight, therefore, to the conchologists present when a single freshly dead specimen was found on the face of the quarry at grid reference SE(44)501176, on the occasion of this field meeting, thus establishing its continued existence at this site.

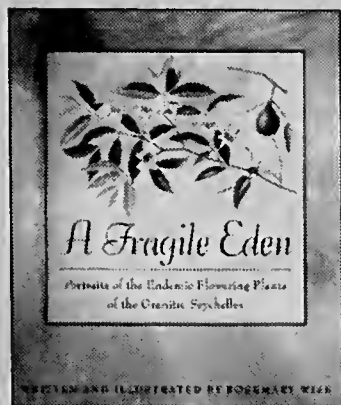
Full details of all the Yorkshire records can be found in two papers: Norris, A. (1976). *Truncatellina cylindrica* in Yorkshire. *Naturalist* **101**: 25-27; and Norris, A. (1978). Additional notes on *Truncatellina* in Yorkshire. *Naturalist* **103**: 23.

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