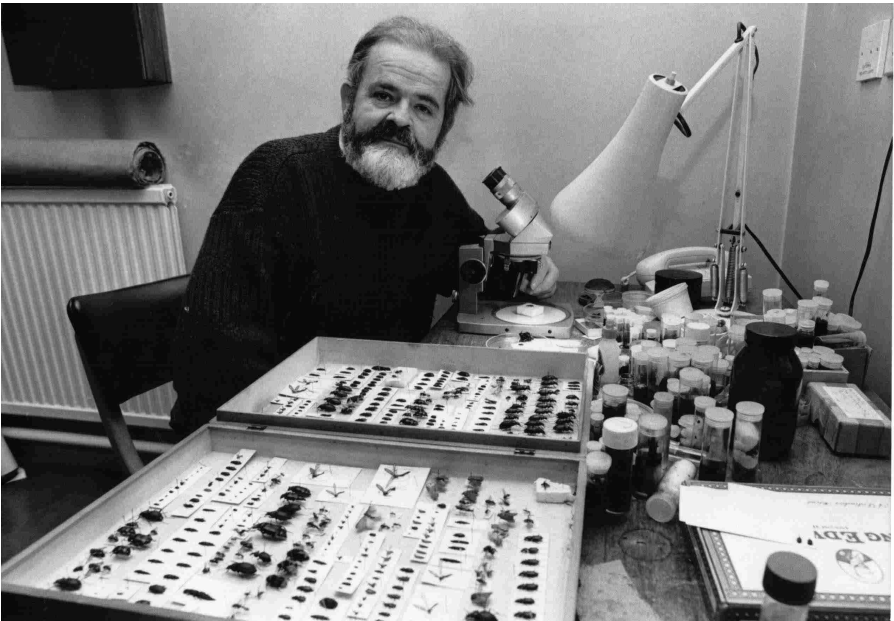


The Doncaster Naturalist

Volume 2 Number 1

October 2010



A tribute to Peter Skidmore, 1936-2009

Doncaster Naturalists' Society

Editorial

This is the first edition of *The Doncaster Naturalist* since 1989 - much too long a gap. In that issue, Dorothy Bramley noted in her Editorial that the Society had been operating successfully for over 110 years - this year is its 130th anniversary, and it is still going strong!

Looking back through the pages of that issue it is pleasing to see some continuity despite the lapse of time. Dorothy Bramley is still a regular participant in our meetings, and there were articles by young chaps called Colin Howes and Ian McDonald. Both are contributors to this volume. We know that the quality of their research has remained high throughout and we are pleased that they still have plenty to tell us.

On a sadder note, that last issue listed the speakers at the Society's indoor meetings - including Peter Skidmore talking about Thomas Tofield. His knowledge of insects, his artistic abilities and his work for nature conservation in the Doncaster area are becoming the stuff of legends, and Pip Seccombe records his contributions in her memorial piece on page 1.

It is good to know that there is plenty of material for future issues of *The Doncaster Naturalist*, and we expect to publish the next instalment in a few months time. We hope that its appearance will stimulate others to write up their research and observations and so continue to stimulate our interest in the natural history of the fascinating and varied Doncaster area.

Paul Simmons

The Doncaster Naturalist

Volume 2 Number 1

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This issue of *The Doncaster Naturalist* is dedicated to the memory of Peter Skidmore

Peter Skidmore PhD, FRES, FLS 1936 – 2009 Honorary Life Member of the Doncaster Naturalists' Society

A memorial

Pip Seccombe

At a talk to the Doncaster Nats in 2004, Peter described his life as being like a spider's web, with several guide spokes and numerous cross-lines. He was born in Manchester but the family moved to Dog Hill near Shaw before the outbreak of war in 1939. His father worked away for much of the time but his mother nurtured his interest in natural history. After the war his father took him to Derbyshire and North Wales where they enjoyed discovering more of the natural world. Peter joined the Oldham Natural History Society in 1947. Here he met Rev Charles Edward Shaw, an eccentric and inspirational botanist who was a key part of the spider's web. He joined the Manchester Entomological Society while still in his early teens. Another guide spoke in the web was his sister Mary's Christmas present in 1951, a copy of *Flies of the British Isles* in Warne's 'Wayside and Woodland' series. This opened up a whole new world to Peter. He collected flies from his garden and while exercising the family dog, collected larvae from cowpats, which he then bred out. Some of his specimens were identified as significantly rare.

On leaving school Peter went to Oldham Art College to study for an Art Teacher's Diploma. Before qualifying he was offered a job by a professional entomologist at a Manchester firm of scientific instrument makers and biological suppliers. This was another spider's web moment and almost overnight Peter became a scientist rather than an artist. However his artistic talent came to the fore later when he produced stunning and incredibly accurate illustrations for his and other author's publications.

In 1965 Peter moved to Doncaster to take up the post of Keeper of Natural History at Doncaster Museum. From then on he became closely involved with Thorne and Hatfield Moors and the long battle to secure the future of these unique sites. He had an excellent guide in William Bunting of Thorne who had been a passionate, although somewhat controversial, campaigner for the moors, for many years. Their mutual respect and friendship resulted in Bunting depositing part of his natural history collection with the Museum when ill health brought an end to his active involvement. It was William Bunting who persuaded Peter to do his PhD on Muscids and his thesis is now a standard work on the subject.

There were many other sites in and around Doncaster which Peter was active in protecting, such as Sandall Beat, Potteric Carr, Edlington Wood, Denaby Ings and Shirley Pool/Rushy Moor. Peter's association with the Nats began when he moved to Doncaster and he served as President several times during the 1970s. He was a regular contributor to the first volume of *The Doncaster Naturalist* but he will mainly be remembered for his encouragement and enthusiasm, opening up the natural world to those with whom he came into contact, including Nats members and the many individuals who came to the Museum with inquiries and observations. He was a private person but a true friend with a ready wit and a delightful sense of humour.

Peter had a deep and personal Christian faith, shared by Heather his wife. This faith was deepened at the time when his son was in a coma following a horrific road accident. His analytical mind did not see a conflict between science and religion which is made so much of these days.

Peter's achievements both nationally and internationally are well recorded and recognized elsewhere. Those of us who knew him and benefited from his friendship and enquiring mind will always be grateful that our paths crossed.

An encounter with Peter Skidmore

Colin Wall

I first met Pete Skidmore on Thorne Moors during my bird watching days - it would have been around 1972. I had been watching a very elusive migrant Redstart on Inkle Moor, hidden in a hedgerow (now removed), which in those days bordered the southern edge of Inkle Moor meadow. At one point it became necessary to find a way through this hedgerow, an almost impenetrable barrier of hawthorn, but I finally emerged, scratched and breathless on the other side. There I was confronted by this naturalist, resplendent with a diverse array of insect-catching apparatus, gazing at me as though he had just found a shield-bug new to science. That look, so characteristic of Pete, was difficult to describe but can best be summed up as 'quizzical'. We introduced ourselves, and began a brief conversation that began well, but became disconcerting to me as his gaze became focused on my coat. His eyes drifted up one sleeve, across my chest and down the other. Then he became completely absorbed in plucking insect larvae from my torso that I had picked up on my passage through the hedgerow. With each find Pete would give me the scientific name (and the English name if one was available) before replacing the beast back in the hedgerow. That was the first time I realised there was more to natural history than bird-watching.

Pete was one of the nicest people I have ever met. It didn't take long for me to realise his personality encompassed several attributes rarely seen together: these included formidable knowledge embracing most facets of natural history, a gloriously unpredictable sense of humour and a natural humility. Meeting Pete for the first time on that far-off day in 1972 was a privilege, and a day I'll never forget.

Frank Devine

It is with regret that we report the death of Frank Levine, a member of the Naturalists' Society for many years. His quiet determination made him a formidable campaigner for conservation in Doncaster.

Cetacean Mystery solved?

Louise Hill

Prompted by Colin Howes' presentation to the Environment Agency on the occurrence of cetaceans in Yorkshire river systems, I recalled a sighting of a porpoise in the Trent at Gainsborough in 1999. I had seen reports of the porpoise on the local BBC news - the best sightings had been from Lidl's car park in the town centre, so we tried there and were rewarded with some fine views (see photograph on Plate I).

Colin's comment about my recollections was: "Ah - the famous Gainsborough porpoise - there's some debate about that one!" This prompted me to get out my slide photos and take a closer look. After taking a digital copy of the slide I was able to enhance the images. For the first time I noticed that there was a person walking on the river bank. By comparing the the size of the animal in the river with the person on the bank, it was obvious that the animal was huge - far too big for a porpoise - so I sent the images to Colin. Here is his response:

"I'm pretty certain the beast is a Bottle-nosed Dolphin. I've compared the dorsal fin size, shape and position with the following likely candidates:

Long-finned Pilot Whale - (their fin is too rounded and your cetacean is probably a bit small);

Bottlenose Whale - (their fin is smaller and positioned much further back and your specimen is probably a bit small);

White-sided Dolphin - (Fin OK but no sign of pale patch on back and sides);

White-beaked Dolphin - (Fin OK but no sign of pale patch at rear);

Harbour Porpoise - (their fin is shorter and more rounded);

Bottle-nosed Dolphin - (fin position, size and shape seems OK).

According to my records the specimen you photographed was around from 25-30 January 1999 and later during its stay people were reporting the presence of a pair. There was evidently a population of Bottle-nosed Dolphins in the Humber catchment long ago. Excavations of an Anglo-Saxon site at Flixborough, North Lincolnshire, has revealed extensive evidence of the 'harvesting' of Bottlenose Dolphin from the adjacent Humber estuary. More recently, since their re-appearance in Yorkshire waters, they have been implicated in 'duffing up' the local Harbour Porpoise population. Bottle-nosed

Dolphins are known to attack and kill the much smaller Porpoises and their teeth marks have been found on at least one dead Humber porpoise (27 April 2003).

I think you've cleared up one of the recent cetacean mysteries.”

The Harbour Porpoise and other whales in the River Don and adjacent tidal rivers

C.A. Howes

It may come as a surprise to learn that over the years some eighteen species of whale, dolphin and porpoise have been recorded in the Humber Estuary and its associated river catchments (13). Although this may be construed as an impressive proof of biodiversity, the reality is that for some of these species, the Humber forms a lethal trap where the larger species fatally strand on the mudflats and in the past the smaller species were netted and shot or brutally bludgeoned to death.

Today, through European Union and UK conservation legislation, these species are protected and many are subject to UK biodiversity action plans. More particularly the relevant authorities need to be aware of the effects of river management activities on these creatures.

The following catalogue provides a chronological review of records of sightings and strandings upstream of the Trent/Ouse Confluence which includes the lower Don and its adjacent tidal rivers.

Minke Whale *Balaenoptera acutorostrata* This is the smallest, and with 14 stranding, is the most frequently recorded, baleen whale within the Humber system.

1.1902 **River Ouse** Swinefleet (SE/7621) One stranded on the tidal mud (3,10,13,15).

17.9.1938 **River Trent** Gainsborough (SK/8090) A 15ft 9 inch specimen ascended the Humber system and was killed in the Trent (10,13,15).

29.4.1985 **River Trent, Ouse & Humber** A 17ft specimen temporarily beached in the Trent at Burton-on-Stather (SE/8618), in the Ouse at Goole Fields (SE/7521) before finally stranding at Broomfleet

Island (SE/8826). The skull of this specimen is in the collections of Hull Town Docks Museum and the skeleton and jaws are at Doncaster Museum (10).

Sei Whale *Balanoptera borealis* With its annual migrations in the north-eastern Atlantic taking place well off the west coast of Britain, very few ever enter the North Sea. The only specimen recorded from Yorkshire waters was a calf which entered the Humber and was finally caught and killed in the locks at Goole Docks (SE/7422) 5th September 1884. (3,12,13,15).

Unidentified toothed whales In July a 'Grampus' was captured at Thorne (*Doncaster Gazette* 11.7.1884).

Northern Bottle-nosed Whale *Hyperoodon ampullatus* Most British records are on the western and northern coastlines with schools occasionally moving inshore to feed on spawning Mackerel *Scomber scombus* or Herring *Clupea harengus*. Relatively few groups enter the North Sea though the Holderness and Humber area has a particularly large number of records.

1863/4 **River Ouse** Goole (SE/7423) 23 of a school of 25 were hunted and killed (12,13,15)

9.1867 Mouth of the **Ouse** (SE/8623) Eight females (13,15).

1877 **River Trent** between Amcotts (SE/8514) and Keadby (SE/8311) Several stranded, one of which measured 15 ft (15,13).

16.8.1938 **River Trent** Keadby (SE/8311) A 21 ft specimen which entered the Humber in July, stranded (3,13,15).

White Whale or Beluga *Delphinapterus leucas* A small social group of these circumpolar and sub-arctic inhabitants of inshore and estuarine waters evidently entered the North Sea in early 1903 with sightings off the Northumberland, Durham and North Yorkshire coastline. One was captured at the mouth of the Tyne in June 1903 and the last evidence of the group was one which entered the Humber system and was captured below Naburn Lock in April 1905. An illustration is in Bunker (14) and the skeleton is preserved in the Yorkshire museum (3,11,12, 13,15).

Killer Whale *Orcinus orca* Clarke and Roebuck (2) evidently had sufficient data to describe the 'Grampus' or killer whale as a '*Casual visitant of frequent but irregular occurrence*' ... '*often stranding on our coastline and ascending the Humber even as high as Goole, in pursuit of salmon*'. With good numbers of Grey Seal *Halichoerus gryphus* and Common Seal *Phoca vitulina* now seasonally breeding in the Humber mouth area, killer whales may again be attracted to hunt in the region (12).

29.5.1928 **River Ouse** Swinefleet (SE/7722) A 16 to 18ft specimen which was caught alive and was towed to Goole where it escaped 'up stream', not to be seen again! (3,13,15).

Bottle-nosed Dolphin *Tursiops truncatus* According to archaeological evidence, this, the largest of our dolphins, was regularly harvested for food in Anglo-Saxon Flixborough, North Lincs.

Although present in the northern North Sea with a celebrated population in the Moray Firth, there are few Yorkshire records, though sightings have increased since 2001. Bottle-nosed Dolphins are known to fatally attack the much smaller Harbour Porpoises and since their teeth marks have been found on at least one dead Humber porpoise (27 April 2003 pers. comm. Robert Deavile, Institute of Zoology), they have been implicated in mysterious porpoise deaths in Yorkshire waters, notably in March-April 2005.

4 & 16.10.1881 **River Ouse** Goole Ness (TA/7624) One specimen stranded twice (13,15).

25-30.01.1999 **River Trent** Gainsborough (SK/8090). Up to two, initially thought to be porpoises, were photographed at Gainsborough bridge by Louise and Andrew Hill and shown to be bottle-nosed dolphins (see previous article).

07.10.2002 Haile Sand Fort (Humber Estuary)

08.10.2004 Broomfleet (Humber estuary) (YNU Bulletin 43:8-11).

Harbour Porpoise *Phocoena phocoena*

River Trent Carr (1) reviewing occurrences in the Trent regarded porpoises as 'once very frequent in the tidal portion' noting that 'on half a dozen occasions during the past ten or twelve years (1894 to 1906) small schools had ascended as far as Collingham (SK/8161). In 1880 when the river was in flood, a school of five crossed the weir in the canal just below Newark (SK/8055). In about 1898 five were killed near Collingham and on 26th March 1906 a 4ft specimen was shot at Kelham near Newark' (1). In 1891 three were shot in the Trent at West Butterwick (SE/8305), one measuring 5ft 6 inches (8,14).

River Ouse In the *Doncaster Gazette* 24 November 1876 complaint was made of porpoises having done much damage amongst the fish in the river (Ouse) off Goole. 'They had been in the river all the season and had been seen between Cleethorpes and Goole in great quantities. Some had been calculated to number four and five hundred in a shoal'. It was resolved at a meeting of commercial fishing interests that bounties of 10 shillings each was to be offered for the first 20 specimens of 'Grampus' caught, 5 shillings each for the first twenty porpoises (4).

An article in the *Goole Times* for 3rd August 1877 reported that during the first week of August 1877 'a great number of ... porpoises were observed near Whitgift' (SE/8122), and maintained that the Ouse Salmon fishery had suffered from the '*enormous destruction of the fish*' evidently caused by '*grampuses and porpoises which constantly visit the Ouse and other tributaries of the Humber*' (5).

Up to 1888 'great numbers' were alleged to follow the salmon up the Humber system, sometimes ascending the Ouse as far as Cawood (SE/5737) (2). In 1959 one ascended the Ouse to Goole (7).

Porpoises paid a fleeting visit to the River Ouse at Cawood on 16th March 2003 to the delight of a crowd of people who watched them from the swing bridge. Sue Miles, of Cawood Post Office, who has lived in the village for 28 years, recalls three or four occasions when porpoises have been seen in the river – usually between the bridge and the church. She said: "They don't come every year but when they do the older people in the village seem to think that they are following the migration of salmon up the river." (16).

Paul Frear (Environment Agency, 2008) notes "Historically you would have had porpoises and seals chasing salmon up the river" and "In the last few years we have received reports of a pod of porpoises at Cawood, north of Selby." (17)

River Wharfe Up to 1888 'great numbers' were alleged to follow the salmon up the Humber system, sometimes ascending the..Wharfe.. to Kirby Wharfe (SE/5041) (2).

River Aire Prior to 1907 specimens had been shot in the River Aire as far inland as Chapel Haddlesey (SE/5825) (6). During early December 1996, porpoises were suspected to be in the river near the confluence of the Ouse and the Aire (SE/7226) where Environment Agency staff reported 5-6 salmon 'porpoising' out of the water, evidently being pursued by some form of underwater predator (Chris Firth pers. comm.).

River Don The Diary of the Rev. Abraham De la Pryme records that in 1687 a porpoise was caught in the Don at Fishlake and was 'carried about for all to see'. In October 1897 one ascended the Don to Doncaster (SE/5704), its skull being preserved in Doncaster Museum (8,9). On 3rd June 1983 a 4ft female porpoise calf ascended the Don to Doncaster (SE/5704) but was 'rescued' and returned to the sea three miles off Bridlington (8, 9).

River Eaubeck On 5th December 1996 a porpoise which had ascended the River Don to Kirk Bramwith (SE6111) entered the River Eaubeck near Thorpe Marsh Power Station and was observed in the river at Thorpe Marsh Nature

Reserve (SE/5909). The specimen was watched for some minutes (surfacing and diving) by Mr and Mrs A. Vincent (Eric Denby *Pers. comm*).

River Idle 1966 one died in the Idle at Idle Stop (SK/7996) (8).

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- 17 *Yorkshire Post* 07 March 2008 When the Ouse was leaping with salmon.



Superb reed-hopper, *Delphax crassicornis*

May only occur in the UK in the Humberhead levels.

Drawing by Peter Skidmore

William Casson as a naturalist

Martin Limbert

Introduction

William Casson, the first resident chronicler of Thorne and its rural hinterland on the Yorkshire-Lincolnshire border, was born into a local Quaker family in 1796. An account of his life and work in Thorne (1) notes his commercial and farming interests, and his activities as both an historian and naturalist. He died in 1886, and his most lasting memorial comprises the three editions of his book *The History and Antiquities of Thorne, with Some Account of the Drainage of Hatfield Chase*. This first appeared in 1829. Two aspects of William Casson's life are of particular relevance to the naturalist. The first is his involvement with commercial horticulture - notably raising hybrid rhododendrons - on the south-western edge of Thorne Moors. Here, Casson's family were landowners, and the holding included his 'experimental garden', (2) which became well known to visitors for much of the nineteenth century (See Plate II). Secondly, Casson's documentation of local topography and natural history is of direct relevance, especially as again he was involved with Thorne Moors. It is the main purpose of the present paper to summarise Casson's activities in natural history. It coordinates recent published work, and gives new information on Casson's involvement with the Thorne Literary and Scientific Institution. In addition, a list of all modern reports, papers and other items on Casson is provided, as the current paper is, with one exception, (3) the final outcome of Casson-related research undertaken by the writer.

Overview of Natural History

William Casson's *History* (4) reveals his interests in natural history. This is especially evident in the chapter outlining Thorne Moors, Casson's extended description of the surface and its vegetation being the first of any consequence. He also described the peat and the paludified tree remains beneath it. A number of various species are alluded to in the chapter, particularly of flowering plants and birds, but also memorable taxa from other groups, like the biting Nematocera (5) and Adder *Vipera berus*. William Casson was apparently keenest on botany, and the available evidence largely restricts his natural history to Thorne Moors. However, his interests probably encompassed the larger district of Thorne parish and adjacent parts. He may have had a similar outlook to that of Gilbert White, who died only three years before Casson's birth. The latter was aware of *The Natural History and Antiquities of Selborne*, citing White in

discussing Yews *Taxus baccata* in churchyards. This view of Casson's attitude is given credence by noting his choice of verse, derived from Oliver Goldsmith's 'The Traveller', on the title-page of each edition of his *History*. Casson seemed satisfied with his geographical lot, which he clearly felt was worthy of investigation and documentation. His published work reinforces this interpretation, indicating a sympathetic rapport with Thorne and its region.

Botany

C.W. Hatfield (6) regarded William Casson as an "intelligent and enthusiastic observer of nature", and some of the Thorne botanical records which the former published probably emanated from Casson. An obituarist (7) noted that Casson was: ...always known as a good botanist, and a successful cultivator of plants and flowers, and his garden on the moors was often visited by naturalists and botanists from a distance.

Casson guided the Sheffield Field Naturalists' Society on their excursion to Thorne Moors on 21st June 1865 (8). This is the earliest known visit to the area by an organization based beyond Thorne, though there is no later evidence to link Casson with visits by any other organizations. He was firmly a naturalist of his time, associated with the earliest phase of botanical interest on Thorne Moors, when the site was seen as a rich source of herbarium specimens and of records of broad geographical significance (9). The increasingly sophisticated and regulated attitude to Thorne Moors botany which is apparent from the 1870s, mirroring wider changes, was engendered from beyond Thorne. Although the third edition of Casson's *History* appeared during that decade, the botanical data had not been altered from that of the second edition.

The botanist James Backhouse (1825-90) described William Casson as "my now aged friend" in 1884 (10). In examining natural history at Thorne, this is only one example of a significant Quaker interest in the nineteenth century. In addition to Casson and another Thorne Quaker botanist, William (or Robert) Harrison (11), non-resident Quaker naturalists like James Backhouse (above), Thomas Le Gay Brewerton and John Heppenstall had links with Thorne Quakers and these would repay further study. Indeed, it is likely that Casson's botanical contacts were largely Quaker ones.

William Casson's garden property on the south-western edge of Thorne Moors was often visited by naturalists. A little further into the Moors was 'Scheuchzeria Well', as mapped and named in the 1850s (12). This moorland pool was probably the most accessible destination for those seeking specimens of Thorne's most celebrated botanical native, Rannoch-rush *Scheuchzeria palustris* (13). This species was discovered by William Harrison, in 1831 or

earlier; and was known in the field to William Casson by 1841 (14). It is likely that Casson's visitors travelled to the garden, and were then guided over the Moors to the nearby Rannoch-rush station. Naming one pool suggests that the species was not widespread. This station was comparatively easy to reach, and was presumably the one that Casson knew best. It is possible that he was one of very few botanists who had local and consistent knowledge of Rannoch-rush on the accessible Thorne side of the moorland. William Harrison emigrated to Indiana in North America sometime after his botanical coup, and other known collectors were often neither local nor persistent. By the time the 'investigative' botanists of the 1870s and later began to know the Moors, the species had all but succumbed to drainage. Only Dr F.A. Lees found a single flowerless example, in 1870 (15). The press reports of the 1865 excursion by Sheffield naturalists do not refer to Rannoch-rush, though the garden region was visited and commoner plants reported on. 'Scheuchzeria Well' would surely not have been missed had so renowned a 'botanic lion' still been growing there. Indeed, it only marginally survived into the following decade anywhere on the Moors. The unique place name 'Scheuchzeria Well' may have been coined by Casson, becoming formalised when mapped. Who else but local landowners, their employees, and those who rented turf-grafts could provide detailed place names to the surveyors of the Ordnance Map Office? Who but botanists would know of Rannoch-rush? Who but William Casson would be as familiar with that botanical station?

James Backhouse made his comment of friendship in 1884 in a published note attributing the finding of Fen Buckler-fern *Dryopteris cristata* in Yorkshire to a Thorne Moors gathering made by William Casson in 1856 (16). The latter had actually published it as a Thorne species in the second edition of his *History*, 13 years after the initial discovery of the fern. The record, and indeed Casson himself, were initially unknown to Dr F.A. Lees, who, however, subsequently included the record, and attributed it, in *The Naturalist* (17) and his *West Yorkshire Flora* (18).

The foregoing is the only known occasion when any of William Casson's data recognizably found their way into one of the county or infra-county floras of the nineteenth century(19). Not surprisingly, nothing written by Casson is included in the bibliography given by Lees (20). Casson was, however, quoted by the Lincolnshire botanist and pioneer ecologist E.A. Woodruffe-Peacock (21), though the exact data derived cannot be determined. There is no evidence of an herbarium at Thorne, though Casson is known to have collected notable specimens on occasion (22), both for identification by experts and as herbarium gifts for others. The latter was particularly true for Rannoch-rush.

Thus William Casson was significant as a local botanist, being particularly associated with two rarities from Thorne Moors, Rannoch-rush and Fen Buckler-fern. Casson is rightly accorded a place in Ray Desmond's *Dictionary of botanists and horticulturists* (23), based on his involvement with horticulture as much as on his significance in local botany.

Vertebrates

In the three editions of William Casson's *History*, there are references to vertebrates associated with Thorne Moors. The 1829 edition is the earliest known of all published sources to refer to bird species on Thorne Moors (24). Limbert noted the following as the essential local component of this work (25):

“Formerly wild fowl resorted to the morass in immense numbers, but now, with the exception of geese at particular seasons, they are comparatively scarce. A few curlews [*Numenius arquata*], mallards [*Anas platyrhynchos*], teal [*A. crecca*], snipes [*Gallinago gallinago*], and plovers [*Vanellus vanellus*?] are occasionally seen.”

“One species of the snipe tribe (*Scolopax gallinago*) is generally termed the moorlamb, by the turf cutters, from the bleating noise it makes, particularly in the breeding season...”

“The heron (*Ardea major*) [*A. cinerea*] pays a periodical visit to the drains in summer...”

“A few pairs of moor buzzard (*Falco aeruginosus*) [*Marsh Harrier Circus aeruginosus*] yearly breed on the most unfrequented parts of the morass...

The Gyr Falcon [*Falco rusticolus*?], is also sometimes seen sailing over the moor”.

This latter reference is the only one that can be regarded as questionable (26). In the second edition (repeated in the third), Casson's account of birds was slightly expanded. He added that “red shank” *Tringa totanus* and “widgeon” *Anas penelope* were also “occasionally met with”, the latter also characterized as occurring with “wild duck” about the moorland pools or ‘wells’. Additionally, Casson noted in the later editions that Marsh Harrier “used yearly to breed on the most unfrequented part of the morass” (my italics). This suggests that the species might have shared the fate of Rannoch-rush, and ceased to nest as a result of the widespread drainage activities and greater consequent accessibility of the 1860s. In the later editions, Casson also added Osprey *Pandion haliaetus* and “large horned owl” as “occasionally seen sailing over the moor”. The latter was presumably Short-eared Owl *Asio flammeus*.

References to other vertebrates are centred on a detailed account of Adders, including their collection for medicinal use, which has been recently republished (27). Also alluded to by Casson are Grass Snake *Natrix natrix* and, in the later editions, a deer skull, almost certainly Red Deer *Cervus elaphus*, dug out of the

peat and donated to the museum of the Yorkshire Philosophical Society.

The Thorne Literary and Scientific Institution

With his interests and outlook, it was natural that William Casson should be involved with the Thorne Literary and Scientific Institution. This was founded in 1836 “on the principles of the Doncaster Lyceum” (28). During 1852, an amalgamation was effected with the Working Man’s Library and News-room, to form the Thorne Mechanics’ Institute and Literary Society (29). However, the appellation ‘Literary Society’ was later dropped, but the Mechanics’ Institute persisted to at least 1864 (30).

During the period 1836-46, William Casson was an active member of the Institution, being a member of the Committee managing its affairs (31). He acted as Chairman of the monthly meetings on occasion, his vote of thanks to the speaker on 1st March 1844 being delivered in *extempore* paraphrased verse (32). In the same year, Casson was Chairman of the historic meeting held on 31st May (33), when the noted Thorne landowner, entrepreneur and engineer Makin Durham spoke “On our own neighbourhood”, describing its former condition, the drainage and reclamation works subsequently undertaken, and its remaining potential for economic development.

William Casson contributed to the monthly meetings, sometimes alongside other speakers. On 23rd September 1836, “a very instructive and entertaining lecture was delivered by Mr. Wm Casson, on the natural history and habits of bees” (34). The talk included Honey Bees *Apis mellifera* and their management, in sufficient detail to suggest that Casson himself kept hives. The lecture was interspersed throughout with “numerous apt poetical quotations and illustrative anecdotes”. Casson spoke on 12th April 1839 on “The district about Thorne, and the formation of peat mosses”, the lecture being illustrated by “a plan of the district and specimens of the different mosses, &c.”(35). At the meeting of 21st January 1842, the sixth anniversary of the Institution, he gave a presentation, later printed (36), which was also the subject of a publication issued in 1996 (37) to mark the bicentenary of Casson’s birth. His presentation largely consisted of a poetical address on the biting-midges Ceratopogonidae and Rannoch-rush of Thorne Moors, plus a section headed “Explanatory Notes”, which also contained further rhymes. Casson’s other contributions to meetings were “The History of the district of Thorne”(38), “The Habits of Birds”(39), “a humorous poem on the prospective age of ærial navigation”(40), “Trees”(41), “On China”(42), “On the Sources of Pleasure that Winter Affords”(43), “gleanings about insects”(44), and one of several papers, subject unknown, on 8th May 1846 (45), his last reported contribution.

Available modern sources on William Casson

The following list of reports, papers and other items gives all modern sources specifically about the interests and activities of William Casson, but excludes publications that merely quote from his printed work, and also omits relatively incidental references.

Published sources

- M. Limbert (1987a) Some Notes on the Landscape History of Thorne Moors. *Thorne Moors Papers* 1: 31-43.
- M. Limbert (1987b) Materials for a history of botanical investigation on Thorne Moors. *The Naturalist* 112: 117-124.
- M. Limbert (1991) William Casson of Thorne. *The Naturalist* 116: 3-15. (Facsimile issued in 1996 as *Thorne Local History Society Occasional Paper* No. 23).
- M. Limbert (1993) An Early Horticultural Stock List Published at Thorne. *Thorne Local History Society Occasional Paper* No. 12. (Reprinted 1996).
- M. Limbert (1996) Of Biting-midges and Botanic Lions. A Thorne publication of 1842. *Thorne Local History Society Occasional Paper* No. 22.
- M. Limbert and J. Roworth (1997) A Spectacular Legacy! *Moor news* 8: 2. (Also appeared in *Thorne & District Gazette*, 13th January 2000).
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- M. Limbert [2000] Casson's Garden: a horticultural venture on Thorne Moors. *Landscape Archaeology and Ecology* 4: 77-84.
- M. Limbert (2004a) Sheep-laurel *Kalmia angustifolia* on Thorne Moors. *THMCF Technical Report* No. 12.
- M. Limbert (2004b) The Casson Rhododendrons. *THMCF Technical Report* No. 14.*
- M. Limbert (2006) Sheep-laurel on Thorne Moors. In: A. Henderson (editor) *The Humberhead Levels. Proceedings of the Yorkshire Naturalists' Union Conference, Harrogate, 28th February 2004. Supplement to the Bulletin of the Yorkshire Naturalists' Union* 45: 121-125 [separately paginated].

*The opportunity is taken here to draw attention to a significant element inadvertently omitted from the list of references in this publication:

- J.G. Millais (1917) *Rhododendrons, in which is set forth an account of all species of the genus Rhododendron (including Azaleas) and the various Hybrids*. [First Series]. Longmans, Green & Co., London.

Unpublished source

- M. Limbert (2003) *A Provisional List of Hybrid Rhododendrons from the 1872 Stock Listing of Wm & J.C. Casson, Thorne*.

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1. M. Limbert (1991) William Casson of Thorne. *The Naturalist* 116: 3-15.
2. W. Casson (1842) *An Address Read at a Tea Party met in the Long Room, on the Sixth Anniversary and General Meeting of the Thorne Literary and Scientific Association, January 21st, 1842*. Joseph Mason, Thorne.
3. William Casson's descriptions of peat winning methodology on Thorne Moors, as given in

- the successive editions of his *History*, have been analysed and will be included as a section in: M. Limbert (in prep.) *Manual Peat Winning and Transportation on Thorne Moors*.
4. The book appeared as three editions, in 1829, 1869 and 1874. There have been modern reprints, in whole or in part, of the first two of these.
 5. The references to Diptera are not detailed here. For a full modern account, *vide*: M. Limbert (1996) Of Biting-midges and Botanic Lions. A Thorne publication of 1842. *Thorne Local History Society Occasional Paper* No. 22. M. Limbert (1998) The Natural Harvest of Thorne Moors. *Thorne & Hatfield Moors Papers* 5: 1-65.
 6. C.W. Hatfield (1863) Historical Notices of Doncaster. No. XXXIV. The Peat and Bog Lands of the District. (*Continued from last week*). *Doncaster Gazette*, 27th November. C.W. Hatfield (1866) *Historical Notices of Doncaster*. [First Series]. Brooke, White & Hatfield, Doncaster.
 7. *Doncaster Gazette*, 29th January 1886.
 8. Reports appeared in the *Doncaster Gazette*, 23rd June; *Sheffield and Rotherham Independent*, *Sheffield Daily Telegraph*, 24th June.
 9. M. Limbert (1987) Materials for a history of botanical investigation on Thorne Moors. *The Naturalist* 112: 117-124.
 10. J. Backhouse (1884) Notes and Queries. *Lastræa cristata*. *The Naturalist* 9: 137.
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 - M. Limbert (1990) The Drainage of Thorne Waste in the Nineteenth Century. *Thorne & District Local History Association Occasional Paper* No. 5. (Reissued 1998).
 14. Untitled note in *The Naturalist* 46: 117. Casson (1842).
 15. F.A. Lees (1888) The Flora of West Yorkshire. *Botanical Series of the Transactions of the Yorkshire Naturalists' Union*, volume 2.
 16. Backhouse (1884).
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 19. Limbert (1987).
 20. Lees (1888).
 21. E.A. Woodruffe-Peacock (1920-21) The Ecology of Thorne Waste. *The Naturalist* 45: 301-304, 353-356, 381-384; 46: 21-25.
 22. Casson (1842), Backhouse (1884).
 23. R. Desmond (1994) *Dictionary of British and Irish Botanists and Horticulturists including Plant Collectors, Flower Painters and Garden Designers*. Taylor & Francis and The Natural History Museum, London.
 24. M. Limbert and P.C. Roworth (2000) A Bibliography of Thorne Moors Ornithology 1829-1999. *THMCF Technical Report* No. 2.
 25. M. Limbert (1988) Early Ornithology on Thorne Moors. *The Lapwing* 19: 15-19.
 26. M. Limbert (1997) Appendix III: The Gyr Falcon as a member of the Doncaster avifauna. In: M. Limbert, A Working Bibliography of Doncaster Ornithology 1951-1995. *Lapwing Special Series* 6: 72-73.
 27. M. Limbert, S. Hiner and B.P. Wainwright (2004) The Fish and Herptiles of Thorne Moors. *THMCF Technical Report* No. 13.
 28. *Doncaster Gazette*, 26th February.
 29. *Doncaster Gazette*, 27th August.



The Gainsborough cetacean. See page 4.

(photo: L Hill)



Rosebay willowherb. See page 24.

(Photo: P Simmons)



Kalmia angustifolia (Sheep-laurel) in the rhododendron area of Thorne Moors, formerly William Casson's garden.
Close-up of *Kalmia* flowers. See page 10.

(Photos: L Hill)



Royal Fern *Osmunda regalis* on Thorne Moors. See page 30.
Michael Oliver with juvenile Royal Fern specimen (Photos: M Oliver)



Plants lost from the Doncaster region in the last 150 years: Marsh Gentian, Marsh Helleborine, Mezerium and Pasque Flower. See pages 22-24.
(Photos: P Simmons)

30. *Doncaster Chronicle*, 2nd December 1864. *Twelfth Annual Report of the Thorne Mechanics' Institute, At a Meeting, in the Court House, on the 13th day of October, 1864.* Thorne, 1864.
31. *Doncaster Gazette*, 27th January 1843. *Thorne Literary and Scientific Institution. Eighth Annual Report.* Thorne, 1844. *Thorne Literary and Scientific Institution. Tenth Anniversary, 16th January, 1846.* Thorne, 1846. *Thorne Literary and Scientific Institution. Twelfth Anniversary, 14th January, 1848.* Thorne, 1848.
32. *Doncaster Gazette*, 8th March.
33. *Doncaster Gazette*, 7th June.
34. *Doncaster Gazette*, 30th September.
35. *Doncaster Gazette*, 26th April; *Doncaster Chronicle*, 27th April.
36. Casson (1842).
37. Limbert (1996).
38. *Doncaster Chronicle*, 4th April 1840.
39. *Doncaster Chronicle*, 6th March 1841.
40. *Doncaster Chronicle*, 27th January 1842.
41. *Doncaster Gazette*, 27th October 1843.
42. *Doncaster Gazette*, 12th April 1844. No definition of "China" was offered.
43. *Doncaster Gazette*, *Doncaster Chronicle*, 17th January 1845.
44. *Doncaster Gazette*, 27th March 1846
Doncaster Chronicle, 15th May.
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Where have all the flowers gone?

The disappearance of rare and scarce plants in the Doncaster district

Colin A. Howes & Bob Marsh

Introduction

During the 1970s, under the direction of Dr Peter Skidmore, Doncaster Museum staff together with botanists from the Doncaster Naturalists' Society embarked on an ambitious and continuing project to produce an atlas of the distribution of the plants in the Doncaster region. This exercise which involved extensive and continuing fieldwork also involved tracking down botanical records from the published works, unpublished archives and herbaria of numerous botanists who had operated in the Doncaster region since the early 18th century (for a bibliography of these sources see Marsh and Howes 2007) .

A worthwhile by-product of this laborious exercise has been the creation of a series of preliminary distribution maps and listings of sites, grid references and

dates of locally occurring nationally and regionally rare and endangered plant species (see Marsh and Howes 2007). This has been published as a key element of Doncaster's Biodiversity Action Plan, a scheme managed by Melissa Massarella (DMBC Biodiversity Officer) and funded by DMBC Planning Department.

The selection of 'Rare and Scarce' target species has not relied on subjective impressions of the authors or by members of the Doncaster Biodiversity Partnership but is based on locally occurring species included in the following four national and two regional authoritative listings:

National:

British Red Data Books: 1 Vascular Plants (Perring & Farrell 1983).

Scarce Plants in Britain (Stewart et al. 1994)

British Red Data Book: Vascular Plants 3rd Edition (Wiggington 1999)

The Vascular Plant Red Data List for Great Britain (Cheffings & Farrell 2005)

Regional:

A Biodiversity Audit of Yorkshire & the Humber (Selman et al. 1999)

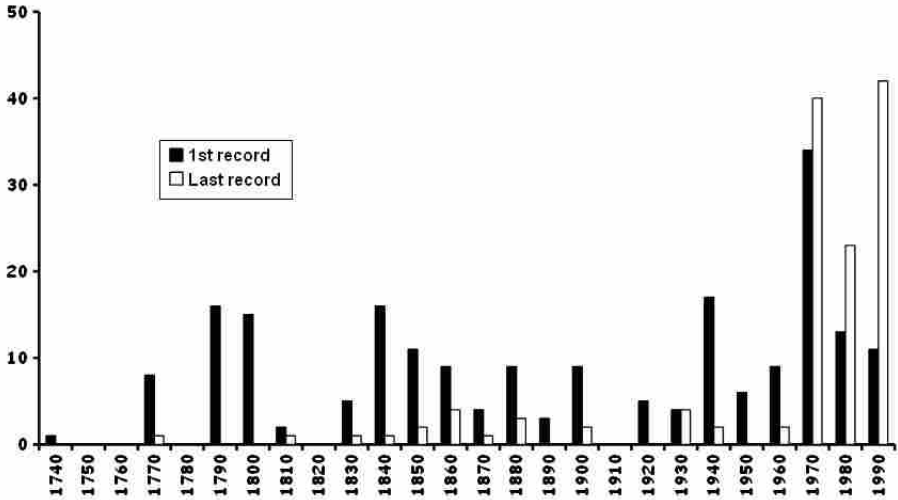
Rare and scarce plants documentation in VC63 (South-west Yorkshire) (Wilmore 1997 & 2002).

Painstaking research into past occurrences of local plant species has been a key process both in understanding the remarkably rich biodiversity of the Doncaster region and monitoring environmental changes. It is something of an accolade to discover that as many as 213 rare and scarce species are known to have occurred locally. However, a reflection of the pressures on our local landscapes, habitats and biodiversity is that despite considerable effort by numerous expert botanists, 127 of these species (about 60%) (see Appendix for list) have not been recorded here since the 1990s and may not have made it into the 21st century!

Figure 1 monitors the history of rare and scarce species being discovered and last recorded per decade in the Doncaster region from the 1740s to the 1990s. Significant peaks of botanical discovery during the 18th and 19th centuries are attributable to the successive and overlapping work of botanists such as Thomas Tofield of Wilsic Hall (1730-1779), Margaret Stovin of Rossington Hall (1756-1846), William Pilkington of Wyndthorpe Hall (1758-1848) and Jonathan Salt of Sheffield (1759-1810), George P. Nicholson of Wath (fl.1830s), Rev. Gerard Edwards Smith, Vicar of Cantley from 1844 to 1846, Oswald Allen Moore of York (d.1862), Samuel Appleby of Balby (1806-1870), Peter Inchbald of Adwick-le-Street (1816-1896), Mary Yarborough of Campsmount (fl. 1830s), J. E. Kenyon of

Hooton Pagnell (fl.1864), T. W. Gissing of Wakefield (1829-1870), Thomas Birks (fl. 1870s-80s) and H. Franklin Parsons of Goole (fl. 1870s) and Dr H. H. Corbett (1856-1921) Doncaster Museum's first Hon. Curator.

Figure 1: First and last records of 213 'Rare and Scarce' vascular plant species in the Doncaster Metropolitan Borough



The peak in the 1940s is due to the work of Dr J.M. Taylor (1886-1947) of Thorne whose notable legacy was the study of aquatic and riparian plants of the Hatfield Chase. The significant number of additions during the 1970s and 80s was due to the prodigious amount of field work undertaken by William Bunting of Thorne, Doncaster Museum staff and members of the Doncaster Naturalists' Society. Much of this work was undertaken while identifying candidate Local Authority Sites of Scientific Interest around the region and particularly in defence of such places as Thorne Moors, Sandall Beat Wood, Potteric Carr and Edlington Wood all of which are now statutory SSSIs.

Although Figure 1 reveals ten local extinctions during the period of the Parliamentary Enclosures (1750s and 1860s), the major period of losses is clearly during the 20th century with 115 extinctions, 105 of which were lost during its final three decades.

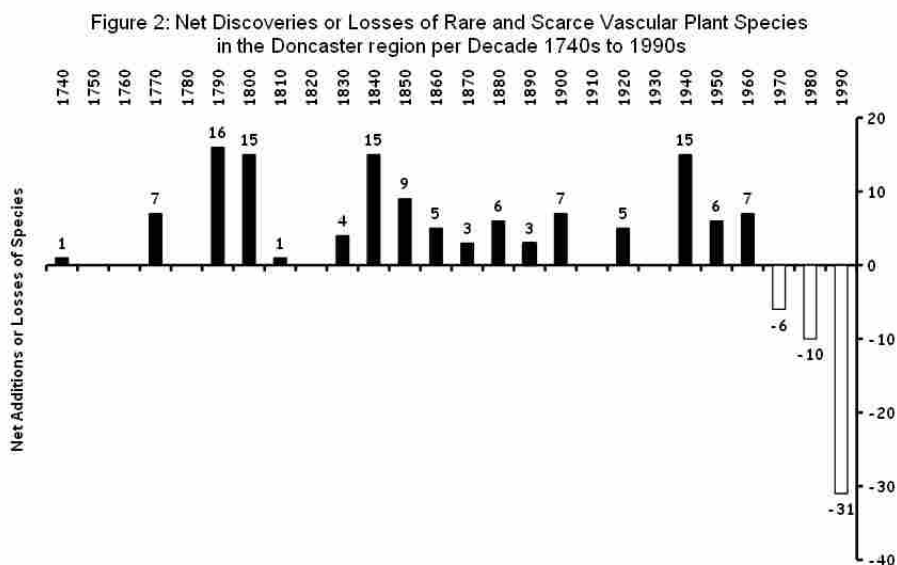


Figure 2, which provides an analysis of the net increases or losses of rare and scarce species, shows that the received wisdom of the damaging effects of the Parliamentary Enclosure period, with its wetland drainage and ploughing up of heath, common and permanent grassland, is not borne out. A decline in net occurrence is however noticeable since the 1950s, initially coinciding with the development of new generations of herbicides. This decline, illustrated by the polynomial trendline, quickly accelerated into a steep crash, coinciding with the EC-funded rush for the intensification of arable agriculture since the 1960s. It came as a surprise to discover that the significant acceleration in net losses from the local flora have happened during a period of unparalleled field surveying and conservation awareness.

An examination of the 2002 aerial survey of the Doncaster Metropolitan Borough (see DMBC Website or Google Earth) dramatically illustrates the proportionally miniscule cumulative area and isolated distribution of ‘green-spaces’ and nature reserves. The progress of this isolation and diminution can be graphically demonstrated by examining of the series of Ordnance Survey maps from the 1850s to today (see DMBC Website). The unsustainability of plant and animal communities in small and isolated sites, lacking realistic or appropriate habitat linkages (green corridors) is widely recognised and the added vulnerability to climate change and extreme weather (flood and drought) events is now graphically highlighted in Brian Eversham’s reports in *The Independent* newspaper and *Natural World* (Eversham 2007a & b).

Considering the high media profile of wildlife issues, the colossal membership and support of wildlife conservation organisations, and despite the existence of a raft of environmental and wildlife conservation legislation, the establishment of Government departments/agencies with responsibilities for biodiversity and the ability of Planning Authorities to identify and defend wildlife sites of local significance, it is shameful to see how ineffectual this superstructure is in the face of actual demands on the finite environment. In defence of our conservation structures, it could be claimed that losses may have been even greater had they not existed. However the strategy of defending biodiversity at a 'site' rather than a 'landscape' level is clearly flawed in the long run. It is to be hoped that the myriad of 'grass-roots' initiatives of Local Biodiversity Action Plans will be more effective in future decades, though in the case of Doncaster's rare and scarce plants it is questionable whether we have many more decades to play with.

Appendix 1 which lists those species not reported in the region since 1999 is provided as an encouragement to botanists to make a special effort to search for and re-record their presence. Distribution maps and lists of former sites of all 213 locally occurring rare and scarce species are available in Marsh and Howes (2007).

Good luck with your efforts to track down these species. A progress review in 2010 will show whether the rate of extinction continues to accelerate, so let's try to put Doncaster back on the map for bio-diversity rather than for bio-degradation.

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BSBI News **77**:23-27; *YNU Bulletin* **37**: 32-34.

Appendix 1: Inventory of Doncaster's 127 Rare & Scarce Vascular Plants not known to have survived into the 21st Century

Scientific Name	Common Name	First record	Last record
<i>Trifolium ochroleucon</i>	Sulphur clover	1779	1779
<i>Agrostemma githago</i>	Corncockle	1816	1816
<i>Potentilla fruticosa</i>	Shrubby cinquefoil	1831	1831
<i>Alyssum alyssoides</i>	Small Alison	1845	1845
<i>Campanula patula</i>	Spreading bellflower	1844	1850
<i>Carex diandra</i>	Lesser Tussock-sedge	1850	1850
<i>Galium tricornerutum</i>	Corn cleavers	1860	1860
<i>Primula elatior</i>	Oxlip	1843	1860
<i>Platanthera chlorantha</i>	Greater butterfly-orchid	1864	1864
<i>Pulsatilla vulgaris</i>	Pasqueflower	1860	1865
<i>Gentiana pneumonanthe</i>	Marsh gentian	1770	1878
<i>Ononis spinosa</i>	Spiny restharrow	1880	1880
<i>Equisetum hyemale</i>	Rough horsetail	1884	1884
<i>Filago lutescens</i>	Red-tipped cudweed	1846	1888
<i>Moenchia erecta</i>	Upright chickweed	1900	1900
<i>Hippocrepis comosa</i>	Horseshoe vetch	1804	1907
<i>Lathyrus nissolia</i>	Grass vetchling	1897	1930
<i>Lonicera xylosteum</i>	Fly Honeysuckle	1925	1934
<i>Potentilla argentea</i>	Hoary cinquefoil	1798	1937
<i>Silene gallica</i>	Small flowered catchfly	1845	1937
<i>Carex elongata</i>	Elongated sedge	1946	1947
<i>Euphorbia platyphyllos</i>	Broad-leaved Spurge	1947	1947
<i>Carex digitata</i>	Fingered sedge	1778	1965
<i>Lysimachia thysiflora</i>	Tufted Loosestrife	1886	1969
<i>Calamagrostis stricta</i>	Narrow small-reed	1887	1970
<i>Callitriche hermaphroditica</i>	Autumn water-starwort	1865	1970
<i>Ranunculus parviflorus</i>	Small-flowered buttercup	1970	1970
<i>Viola lactea</i>	Pale dog-voilet	1970	1970
<i>Persicaria mitis</i>	Tasteless water-pepper	1971	1971
<i>Daphne mezereum</i>	Mezeron	1962	1972
<i>Silene noctiflora</i>	Night-flowered catchfly	1860	1972
<i>Oenanthe pimpinelloides</i>	Corky-fruited water-dropwort	1796	1974
<i>Cuscuta europaea</i>	Greater dodder	1920	1975
<i>Dryopteris cristata</i>	Crested wood fern	1856	1975
<i>Potamogeton praelongus</i>	Long-stalked pondweed	1947	1975
<i>Scheuchzeria palustris</i>	Rannoch-rush	1832	1975
<i>Trifolium occidentale</i>	Western clover	1975	1975
<i>Aceras anthropoporum</i>	Man orchid	1831	1976
<i>Carex divulsa</i>	Grey sedge	1947	1976
<i>Chenopodium glaucum</i>	Oakleaf goosefoot	1975	1976
<i>Fallopia dumetorum</i>	Copse-bindweed	1976	1976
<i>Monotropa hypopitys</i>	Yellow bird's-nest	1902	1976
<i>Ophrys insectifera</i>	Fly orchid	1850	1976
<i>Orchis ustulata</i>	Burnt-tip orchid	1800	1976
<i>Peucedanum palustre</i>	Milk parsley	1804	1976
<i>Potamogeton friesii</i>	Flat-stalked pondweed	1900	1976
<i>Rumex pseudoalpinus</i>	Monk's-rhubarb	1976	1976
<i>Thelypteris palustris</i>	Marsh fern	1831	1976
<i>Veronica triphyllos</i>	Fingered speedwell	1849	1976

Scientific Name	Common Name	First record	Last record
<i>Corrigiola litoralis</i>	Strapwort	1977	1977
<i>Fumaria bastardii</i>	Tall ramping-fumitory	1977	1977
<i>Lithospermum arvense</i>	Field Gromwell	1947	1977
<i>Platanthera bifolia</i>	Lesser butterfly-orchid	1798	1977
<i>Sium latifolium</i>	Greater water-parsnip	1779	1977
<i>Torilis arvensis</i>	Spreading hedge-parsley	1779	1977
<i>Carum carvi</i>	Caraway	1976	1978
<i>Clinopodium acinos</i>	Basil thyme	1779	1978
<i>Clinopodium ascendens</i>	Common calamint	1796	1978
<i>Cynoglossum officinale</i>	Gypsyflower	1798	1978
<i>Galeopsis segetum</i>	Downy hemp-nettle	1803	1978
<i>Medicago polymorpha</i>	Toothed medick	1957	1978
<i>Sisymbrium irio</i>	London Rocket	1977	1978
<i>Nepeta cataria</i>	Cat-mint	1797	1979
<i>Anagallis minima</i>	Chaffweed	1976	1980
<i>Dianthus deltoides</i>	Maiden pink	1846	1980
<i>Equisetum variegatum</i>	Variiegated horsetail	1980	1980
<i>Cardamine impatiens</i>	Narrow-leaved bitter-cress	1981	1981
<i>Dryopteris submontana</i>	Rigid buckler-fern	1981	1981
<i>Epipactis palustris</i>	Marsh helleborine	1832	1981
<i>Poa palustris</i>	Swamp meadow-grass	1981	1981
<i>Stachys germanica</i>	Downy woundwort	1979	1981
<i>Vicia lutea</i>	Yellow-vetch	1979	1981
<i>Viola persicifolia</i>	Fen violet	1947	1981
<i>Chamaemelum nobile</i>	Chamomile	1968	1982
<i>Neottia nidus-avis</i>	Bird's-nest orchid	1850	1982
<i>Carex ericetorum</i>	Rare spring-sedge	1920	1983
<i>Valerianella dentata</i>	Narrow-fruited cornsalad	1870	1983
<i>Valerianella rimosa</i>	Broad-fruited corn salad	1845	1983
<i>Arabis glabra</i>	Tower mustard	1845	1986
<i>Euphorbia exigua</i>	Dwarf spurge	1902	1986
<i>Groenlandia densa</i>	Opposite-leaved pondweed	1796	1986
<i>Papaver hybridum</i>	Rough poppy	1983	1986
<i>Caucalis platycarpus</i>	Carrot burr parsley	1987	1987
<i>Mentha suaveolens</i>	Round-leaved mint	1850	1987
<i>Hydrocharis morsus-ranae</i>	Frogbit	1779	1989
<i>Chrysanthemum segetum</i>	Corn marigold	1888	1990
<i>Illecebrum verticillatum</i>	Coral-necklace	1988	1990
<i>Pinus sylvestris</i> var. <i>scotica</i>	Native Scots pine	1978	1990
<i>Alopecurus aequalis</i>	Orange foxtail	1968	1991
<i>Baldellia ranunculoides</i>	Lesser water-plantain	1797	1991
<i>Deschampsia setacea</i>	Bog hair-grass	1920	1991
<i>Onobrychis viciifolia</i>	Sainfoin	1977	1991
<i>Alchemilla xanthochlora</i>	Lady's mantle	1992	1992
<i>Cyclamen hederifolium</i>	Cyclamen	1992	1992
<i>Lolium temulentum</i>	Darnel ryegrass	1968	1992
<i>Minuartia verna</i>	Spring sandwort	1992	1992
<i>Orchis morio</i>	Green-winged orchid	1845	1992
<i>Linum perenne</i>	Perennial flax	1993	1993
<i>Minuartia hybrida</i>	Fine-leaved sandwort	1937	1993
<i>Oenanthe lachenalii</i>	Parsley water-dropwort	1893	1993
<i>Papaver argemone</i>	Prickly poppy	1796	1995

Scientific Name	Common Name	First record	Last record
<i>Allium scorodoprasum</i>	Sand leek	1996	1996
<i>Anthemis cotula</i>	Stinking chamomile	1971	1996
<i>Chenopodium murale</i>	Nettleleaf goosefoot	1982	1996
<i>Crassula aquatica</i>	Water pygmyweed	1996	1996
<i>Polemonium caeruleum</i>	Jacob's Ladder	1975	1996
<i>Ranunculus baudotii</i>	Brackish water-crowfoot	1954	1996
<i>Rumex maritimus</i>	Golden dock	1952	1996
<i>Scandix pecten-veneris</i>	Shepherds needle	1907	1996
<i>Echium plantagineum</i>	Purple Bugloss	1997	1997
<i>Galeopsis angustifolia</i>	Red Hemp-nettle	1970	1997
<i>Hyoscyamus niger</i>	Henbane	1850	1997
<i>Hypochaeris glabra</i>	Smooth cat's-ear	1976	1997
<i>Lathyrus palustris</i>	Marsh pea	1845	1997
<i>Marrubium vulgare</i>	White horehound	1947	1997
<i>Ranunculus arvensis</i>	Corn buttercup	1947	1997
<i>Viola canina</i>	Heath dog-voilet	1937	1997
<i>Althaea officinalis</i>	Marsh mallow	1998	1998
<i>Anthemis arvensis</i>	Corn chamomile	1975	1998
<i>Apera spica-venti</i>	Loose silky bent	1805	1998
<i>Muscari neglectum</i>	Grape-hyacinth	1980	1998
<i>Oenanthe fistulosa</i>	Tubular Water-dropwort	1800	1998
<i>Scleranthus annuus</i>	Annual knawel	1887	1998
<i>Stellaria palustris</i>	Marsh stitchwort	1850	1998
<i>Ulex minor</i>	Dwarf gorse	1973	1998
<i>Cirsium acaule</i>	Dwarf thistle	1801	1999
<i>Hordelymus europaeus</i>	Wood barley	1848	1999

Rosebay Willowherb *Chamerion angustifolium*

The successful adaptation of a plant to our changing world

Tom Higginbottom

It was Gerard in the 17th century who first recorded rosebay willowherb as a British species. Up to the mid 18th century it was regarded as a garden plant attractive to bees although there were records of it growing in the wild by the Roman Wall in Northumberland in 1769. In the early nineteenth century rosebay willowherb was regarded as a rare upland species. Sir Edward Salisbury was aware that the plant had been uncommon in previous centuries but gathered evidence to show that rosebay willowherb had been part of the British flora since late glacial times. In his famous study he described some 'native species that have assumed an aggressive role' in more recent years in colonizing new habitats. He included rosebay willowherb in this list of species. How could a

comparatively scarce plant turn into one of the most successful and colourful colonizers of waste places?

The bright pink purple flowers grow in terminal racemes and the flowers are a good nectar source for a variety of insects (See Plate II). The alternate oblong-lanceolate leaves are arranged spirally along the stem. Each of the many flowers produces a pod and each pod is capable of producing between 300 and 500 seeds. Every plant may produce up to 80 000 seeds. However, it is the seed dispersal mechanism which enables rosebay willowherb to be a successful colonizer. Each seed is dispersed in a fluffy parachute, a plume made up of about seventy silky hairs. On a day when the air is warm and dry the parachutes take to the air. Whole areas can be covered in these feathery seeds and on dry breezy days the seeds may travel long distances. Most gardeners at some time may have come across the rosebay willowherb leaves germinating in the garden. Once it becomes established it also sends out tough rhizomes which soon cover a large area.

Historically rosebay willowherb has also been provided with habitat niches which have enabled the plant to become so ubiquitous. In the nineteenth century the slipstream of the various trains on the railway network carried the feathery parachute seeds across the country. During the First World War (1914-1918) extensive areas of woodland were clear-felled for the war effort and these clearings became an ideal habitat for the flower. In later years the extensive bombing raids of the Second World War (1939-1945) provided another ideal habitat niche. So many cities were left with large areas of rubble and ash, another ideal habitat for the flower, because it has one of the few seeds which can germinate in untreated ash. In the latter part of the 20th century the decline in the manufacturing and mining industries have left many derelict sites, which have again been colonized by plants like rosebay willowherb.

In a little over 150 years rosebay willowherb has become one of the most common plants in the British flora. Perhaps this is not surprising when the huge seed production for each plant is taken into consideration with its efficient seed dispersal mechanism, added to the fact that it can also extend its immediate range by underground rhizomes too. No wonder it has been able to colonize so many different habitats from sea level to up to 1000 metres.

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A Historical Review of the Royal Fern *Osmunda regalis* in the Doncaster region

Colin A. Howes, Martin Limbert, Michael Oliver and Ian McDonald

Introduction

The Royal fern *Osmunda regalis* L, also known as the Flowering fern and Osmund-royal, is a large, long-lived native fern, which can develop into massive clumps with many crowns, its modified spore-bearing fronds held aloft. It is found across Britain, usually at altitudes below 50m, in a wide range of both acidic and neutral wetland habitats including fens, bogs, fen - carr woodland and heaths but always on peaty soil. Although common in the wetter parts of western Britain it is absent from large areas of the eastern counties (Jermy & Camus 1991, Stace 1991, Preston et al. 2002). An increasingly rare plant in the wild, the Royal fern has suffered badly from insensitive collection in the past and habitat destruction today (Merryweather & Hill 1995).

According to the National Vegetation Classification (Hall et al. 2004) Royal fern is a feature in the field layer of so called W5 *Alnus glutinosa* - *Carex paniculata* woodland. This is a habitat associated with fen peats in open water transitions, flood-plain mires and basin mires where there is strong influence from base-rich ground waters. The dry 'rain shadow' region to the east of the Pennines is something of a conundrum with the high water table region of the 'Humberhead Levels' in the Southern Vale of York providing a rash of historic *Osmunda* sites, despite its general scarcity in eastern Britain. Within this region the mires, heaths and commons of Doncaster's lowland Hatfield Chase contains a significant proportion of these 'Humberhead' sites.

Royal Fern Site Inventory (Wild Sites)

As a contribution to the Yorkshire Naturalists' Union project to gather Royal fern records from across the whole of Yorkshire (Henderson & Howes 2002, Howes 2002), the following catalogue provides a review of historical and current records from the Doncaster region.

Doncaster Carrs (SE/50) The earliest record comes in the form of a specimen from the Doncaster Carrs in the Herbarium of Margaret Stovin of Rossington Hall (1756-1846) (Simmons 1993). Since she collected on the Carrs on various occasions, mainly in 1796 and 1798, it is likely the specimen was gathered on one of these dates. Peter Inchbald (1848) noted 'Osmund-royal ... as being at one time frequent about Doncaster, but I fear it is now becoming exceedingly rare, since the Carr has been in a great measure enclosed'.

Records that specifically refer to **Potteric Carr** (SE/5900) date back to a frond collected by Jonathon Salt of Sheffield [probably in July 1800 (Howes 1984)] in the herbarium at Sheffield City Museum (Howard 1889). Edward Miller (1804) listed it under the name of 'flowering fern, or *Osmund regalis*'. It was last seen in **Decoy Wood**, in 1828 by Samuel Appleby (Hatfield 1866, Skidmore 1971), but was still listed for the Carrs in 1832 (Appleby 1832), 1862 (Miall & Carrington 1862) and F. A. Lees (1888) found it 'still in one spot'. J. G. Baker (Keeper of the Kew Herbarium) in the Botany section of the Victoria History of Yorkshire, referred to Potteric Carr as a good locality where grows *Osmunda regalis* (Baker 1907).

Finningley Gravel Pits (SK6899) About twenty small plants were present in 1956 and were still flourishing in 1961 (Howitt & Howitt 1963). In the 1960s this site was designated a statutory SSSI for its bogland flora. The Howitts visited in 1973 when there were several *Osmunda* clumps flourishing in an area with the radius of 6ft. (Letter from Miss E. M. Palmer Notts Trust 13 Sept. 1977). Due to unsympathetic management by the owner, which included free-range pigs farming, Royal fern was not seen this date and the site was de-scheduled as a SSSI in the mid 1970s.

Hatfield Moors (SE/60;70) Samuel Appleby (1832) recorded Royal fern 'on the borders of Hatfield Chase', though in the report of the YNU excursion to Doncaster on 4th August 1879 P. Fox-Lee (1879) noted that on the Chase 'there was ... not a trace of *Osmunda regalis*, once said to grow here in thickets ...'. F. A. Lees (1888), referring to Appleby's record, generally alludes to its occurrence on the 'sand and heath lands east of Doncaster'; and Dr. S. P. Rowlands (1931) reported it to be 'on Hatfield Waste still'.

Haxey Turbary (SE 755017) (North Lincolnshire) G. H. Allison recorded it here in 1939 (Gibbons 1975). Annotations by Dr. J. M. Taylor of Thorne indicate that he found it here probably in the 1940s, but it was thought to be extinct by 1975 (Gibbons 1975). However, large specimens were reported in 1975 by Eddy Exton (Gibbons 1985) and two large mature plants, growing in association with *Cladium mariscus*, were located in July 1983 by IM & John Burn. These were still present on 21st August 2006 when visited by IM & Helen Kirk.

Howell Wood (SE/4309) On 1st September 2002 a stand of about 1m square with up to 11 mature spore-producing fronds was located here by members attending a foray of the British Plant Gall Society. The stand was growing in a marshy area by a stream on acidic carboniferous sandstone in association with Hard fern *Blechnum spicant*, Marsh Thistle *Cirsium palustre*, Angelica *Angelica sylvestris*, Soft Rush *Juncus effusus*, Grey Willow *Salix cinerea* and Indian

Balsam *Impatiens glandulifera* (Pip Seccombe & Jim Flanagan pers. com. and in lit. 1.9.2002). Being on the Coal measures, this is the only local site which is not on the Sherwood sandstones of the Humberhead Levels. Since Howell Wood shows evidence of 19th century landscape management, this comfortably naturalised plant may have been a horticultural introduction here.

The Thorne Moors complex (SE/71)

Goole Moors (SE7317) A frond collected from Goole Moor in 1878 is in the F.A. Lees herbarium (sheet 5 Herb. FAL. Bradford Museums, Cliffe Castle, Keighley). This may have been collected by H. F. Parsons since he is credited with recording it here by Lees (1888). Probably based on this entry, Baker (1907) notes that 'about Goole ... at the head of the Humber estuary, may be found ... *Osmunda regalis*'.

Rawcliffe [Moors] (SE/7218) No doubt also referring to the above mentioned Goole Moor reference, Baker (1907) also states that at 'Rawcliffe [Moor] ... at the head of the Humber estuary, may be found ... *Osmunda regalis*' .

Thorne Moors (SE/71) On Thorne Moors there have been many records from the 1840s, the first outlined by Miller (1895). However, the species was a long-term victim of fern-fanciers and moorland exploitation (Limbert 1989). Peter Inchbald the notable botanist who ran a private school in Adwick le Street noted that 'The *Osmund-royal* ... may occasionally be gathered [on Thorne Moors] with the fronds from four to five feet high' . He possessed specimens from Thorne Moors 'where it grows most luxuriantly' (Inchbald. 1848). Subsequently, the Royal Fern was listed in the 'Florula of the Thorne District' by Davis and Lees (1880), and Lees (1888) commented that it was still there, but was very scarce, having been dug up by nurserymen. Baker (1907) added that 'here grows or grew' the Royal Fern.

In recent decades, the continued presence of the species has been monitored by visiting naturalists. In the 'Old canals' area (SE/7115; 7215; 7216), 13 plants were found in a survey by William Bunting, Johnny Verhees, Chris Devlin, CAH and Peter Skidmore during 1969-1972. From this same area, two plants were known in the 2nd westerly drain off 1st of the southern canals in 1960s. One of them was transplanted to the bank of the perimeter drain on the edge of the moor (SE7115), but the farmer filled in the drain and the plant was lost (Godfrey Davidson pers. comm. 2.10.2002). The same observer noted a very large plant in the 3rd canal that had 9 spore-producing spikes in 1972 (Godfrey Davidson 2.10.2002). William Bunting was jubilant about the Thorne Moors population which while including some older larger specimens, also contained young plants, indicating that the species was reproducing here, which was evidently not the case at other notable Yorkshire localities where plants were growing.

Following a survey of **Thorne Moors** pteridophytes in the 1980s, Limbert (1989) reported the species as confined to the 'old canals' system (SE/7215), mostly within the National Nature Reserve. The last station away from the 'old canals' was close to **Limberlost** (SE/7213). A specimen from here (described as **New Zealand**), dated July 1969, was obtained by J. Birtwistle (Herb. Doncaster Museum). The last plant from near Limberlost was photographed by Colin Wall on 11th September 1973, but was destroyed within months by Fisons drainage activities (M. Limbert pers. comm.). It is of interest to add that a very young plant (single frond) was photographed by ML in the 'old canals' on 23rd August 1987.

Recent Surveys. Further to the renewed interest in the Royal Ferns in recent years, MO and CAH made a preliminary visit to Thorne Moors National Nature Reserve in 2002 with a view to re-finding the ferns plotted by Bunting et al. (1969-1972), the results are as follows.

9th October 2002. Entering the NNR from the Colliery end and proceeding over the metal bridge at SE/712060 we set off eastwards along the main path along the baulk running adjacent to the main arterial peat 'canal'. The first of the Osmundas were encountered amongst dense *Phragmites australis*, *Betula pendula*, in the arterial canal between canals 4 and 5, close to the junction with canal five.

The first specimen, spotted by MO, was in thick, tall vegetation on the south side of the canal at approximately SE/725155. It consisted of a single crown with 11 fronds, two of which were producing spores, growing to a height of 51 inches. Associated vegetation consisted of *Phragmites australis*, *Betula pendula*, *Quercus robur*, *Salix* sp. and *Pteridium aquilinum*. Most of the canal surface was dominated by *Sphagnum* spp. with emergent *Potentilla palustris*.

The second stand, only a few metres to the east and on the northern side of the arterial canal and not visible from the first specimen, was located by CAH. This was amongst taller, though less dense vegetation, again dominated by *Betula pendula*, *Salix* sp. with quantities of *Calamagrostis canescens*, *Phragmites australis*, and some *Pteridium aquilinum*. *Sphagnum* spp. with emergent *Potentilla palustris* was present, though the more shaded conditions reduced the cover of sphagnum, leaving more open black peaty water. This stand consisted of 4 crowns with fronds, 12 of which had produced spores, growing to a height of 73 inches.

The third stand, spotted by MO, was on the south side of the arterial canal just beyond canal six and its adjacent pathway at approximately SE/728055. It was in a far more exposed situation and had already turned to autumnal tints, made particularly luminous and dramatic in the powerful low afternoon sunlight. Emanating from a 6 inch high sphagnum hummock, its 24 inch fronds reached to 30 inches above the surrounding water (See Plate III). Associated vegetation

consisted of small *Betula pendula*, *Salix* sp. with *Calamagrostis canescens*, *Phragmites australis*, *Typha latifolia*, *Juncus effusus*, *Pteridium aquilinum* and *Sphagnum* spp. with emergent *Potentilla palustris*.

The fourth stand located by CAH at the southern end of canal 5 at SE/724149, was an old crown, apparently growing out of an old birch stump in a site on the west side of the canal, and sheltered by tall old *Betula pendula*. It measured 30 inches in height and 52 inches in width but had no spore-producing fronds. Associated vegetation included *Calluna vulgaris*, *Erica tetralix*, *Typha latifolia*, *Juncus effusus*, *Pteridium aquilinum* and *Sphagnum* spp with emergent *Potentilla palustris*.

The fifth stand was located on the western side of canal 5 at approximately SE/725153. With areas of birch and willow having been cut back in recent years, this was an exposed site and the ferns had already turned golden. The fronds, including some 24 spore-producing examples, grew to 36 inches above the canal surface and the 15 crowns extended in a row along the bank side for some 10ft. Associated vegetation included the same species as in the 4th stand..

The sixth stand was also located on the western side of canal 5 at approximately SE/725154. Again, with areas of birch and willow having been cut back in recent years, this was also an exposed site and the ferns had already turned golden. The fronds, including some 22 spore-producing examples, grew to 44 inches above the canal surface and the 9 crowns extended in a remarkable row along the bank side for some 61ft 8ins. Associated vegetation included the same species as in the 4th stand.

More visits are needed to search, a canal at a time, for plants recorded in the 1969-72 survey .

12th June 2007. Further to the above, MO visited the old canals area on this date and located (and photographed) three new (hitherto unrecorded) juvenile specimens.

2007 (various dates). John Hitchcock and Colin Brett found further juvenile specimens at around the same time and Chris Evans (NE) reported 'many' juveniles in the peat canals to the north of the Southern Canals. All these need to be plotted in detail for monitoring and management purposes.

Royal Fern Site Inventory (Plants in cultivation)

Brodsworth Park (SE/5007) Listed for the Brodsworth Park area in the South Yorkshire Phase 1 Habitat Survey undertaken 12th June 1980 (SYCC/English Nature), it was specifically located as the centrepiece, by the fountain in the overgrown 'Grotto' in 1992 (Doncaster Museum Survey 1992). This plant was removed during restoration work by English Heritage. The species was subsequently replaced as part of the new fernery development containing

material from the late Eric Baker's fern collection (Bouckley 2001). It was seen in situ by CAH in August 2006 and 2007.

Cantley Hall (SE/6202) *Osmunda regalis* seen in fern collection in the Hall fernery during the Doncaster Naturalists' Society visit on 9th June 2005 (P. Seccombe pers.comm.).

Skelbrooke Park (SE/5112) Present in the Hall gardens. The specimen was obtained from the Moreton Hall Gardens, Retford and introduced by Mrs C. Spencer in about 1999. It was examined in summer 2001 by Pip Seccombe and by Tom Higginbottom on 3rd July 2002 during a visit by the Doncaster Naturalists' Society.

Dedication and acknowledgements

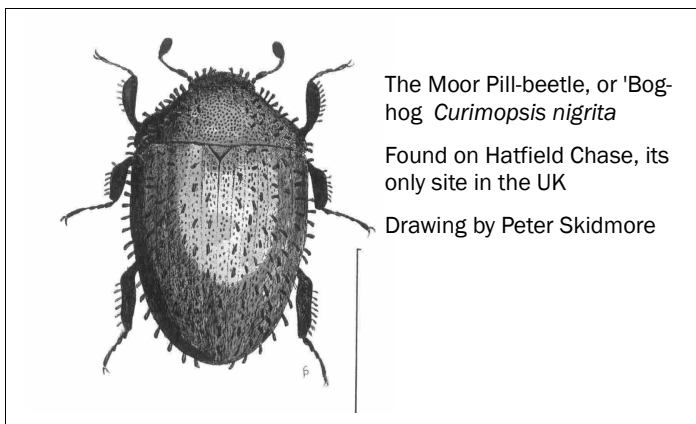
This paper is dedicated to the memory of William Bunting of Thorne who inspired us with a passion for the remarkable historic landscape and biodiversity of the Hatfield Chase and taught us never to take it for granted. Records in this study have been shared with the DMBC Biological Records Centre.

The compilers are grateful to the following for providing records and observations: Colin Brett, Dr. F. Eva Crackles, Chris Evans, Dr. Tom Dargie, Godfrey Davidson, Christopher J. Devlin, Elizabeth Farningham, Jim Flanagan, Don R. Grant, Tom Higginbottom, John Hitchcock, Helen Kirk, Peter Roworth, Pip and Marc Seccombe, Prof. David W. Shimwell, Dr. Peter Skidmore, Colin Wall and Terry Wells.

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The Moor Pill-beetle, or 'Bog-hog' *Curimopsis nigrita*

Found on Hatfield Chase, its only site in the UK

Drawing by Peter Skidmore

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The two drawings by **Peter Skidmore** (pp9 and 32), are small black and white versions of his beautiful originals. These, and many more, are available as a set of prints, from the Thorne and Hatfield Moors Conservation Forum, PO Box 879, Thorne, Doncaster DN8 5PU or www.thmcf.org.uk

The Doncaster Naturalist
Volume 2 Number 1
October 2010

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