

James Edward Vize, Curate and Vicar of Forden, Montgomeryshire
1869 - 1910, Mycologist

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What follows is a partial account of the life and activities of a neglected Victorian naturalist. Mycologists know his name from the many packets containing dried specimens of microscopic fungi on leaves, when they examine them at the Royal Botanic Gardens Herbarium at Kew and elsewhere (Preece, 2000). As we shall see, such specimens of fungi are sometimes studied by scientists from the five continents - far from Forden Vicarage in Montgomeryshire (May & Ristiano, 2004). Books list dried specimens ("exsiccata") prepared by "J. E. Vize", but to almost all he remains a mysterious name about whom little is known.

In recent years I have been collecting and recording fungi in the borderland between Shropshire and Montgomeryshire (Preece, 1996 Blackwell, Mantle & Preece, 1997). This has involved an intensive search for old records and stored herbarium specimens of microscopic fungi collected in this area over many years. These activities, and correspondence with living mycologists, quickly revealed the local, national and international significance of J. E. Vize of Forden, Montgomeryshire, during the second half of the nineteenth century. In 2004, we live in a time of swiftly advancing knowledge, based on complex and specialised laboratory work on -the nucleic acids (DNA and RNA) of many living things. We have to exercise our imaginations somewhat to see how a busy village parson did important work with fungi far from libraries and laboratories. However, we can focus on the various dates important in the times of J. E. Vize by recollecting that Queen Victoria lived from 1819 to 1901 becoming Queen in 1837, with her Golden Jubilee in 1887. During these years, what we would today regard as "amateur" naturalists (most commonly clergymen) laid the foundations of much of our knowledge of living things in Britain. D. E. Allen (1976) in his fascinating book about the social history of British naturalists, expresses clearly the ideals and activities of these men.

Their "years of peering closely, trained the eye in the admiring or minutiae, the intricate details, the lowly magnificence of Creation" and in particular "with their microscopes, the Victorians found a

means of penetrating nature's' furthestmost recesses, of laying bare new aspects of the elemental". These Victorian clergymen who laboured just as Allen describes, have never been surpassed at collecting, recording and preserving living things which they searched for in the countryside. Their classical education greatly assisted their mycological activities, which often necessitated their minds being replete with Latin descriptions and names of fungi!

The Reverend J. E. Vize was born six years before Victoria came to the throne in 1837, and he lived on for 15 years after her death in 1901. Probably thought of by his fellow members of the Powysland Club as an "oddball" with very unusual interests, modern assessment of his work as a mycologist leads us to be a different conclusion. In recent years Edward O. Wilson has coined the word "biodiversity" - the variety of living things in an ecosystem. Writing in 1991 he wrote "life is more diverse and more plentiful than anyone had previously known". Fungi, especially microscopic fungi, are now known to constitute a much larger component of the biodiversity on earth than was thought possible in the time of J. E. Vize. Now competing with the vast numbers of kinds of insects (long considered to be the most prolific of species of all living things) there are at least six times as many species of fungi on earth as there are flowering plants (Hawksworth, 1997), with several new species of fungi being reported daily! Thus the pioneering work of mycologists like Vize has come to be very significant. Vize was a meticulous worker. The microscopic fungi in which he interested himself can only be identified with certainty using a compound microscope. He also realised that the careful storage of dried specimens was the only way in which the existence of particular fungi could be accepted in the scientific world, notwithstanding the possibility of names being changed in later years. When needed, they can be compared with other related specimens and newly discovered species, and can be used in other ways in research.

There were, until the founding of the Colleges of the University of Wales in the latter half of the reign of Queen Victoria and later, (Aberystwyth 1872; Cardiff 1883; Bangor 1884 and Swansea 1920) only two significant mycologists living in Wales. Both have been neglected and both were clergymen. The first was the Reverend Hugh Davies (1739 - 1821) and the second was James Edward Vize (1869 - 1910). Dennis (1999) has recently reminded us of Hugh Davies, an Anglesey parson, who, in his *Welsh Botany of 1813*, listed 336 fungi around him in Anglesey. Hughes was a Welsh patriot, deeply interested in Welsh language and culture. He did not, perhaps because of this, become widely known in British biological circles. He was however (Dennis, 1999) "no conventional parson" with a casual interest in natural history "but a significant mycologist". These words fit J. E. Vize also - but as we shall see, Vize was not Welsh, but Irish.

Ainsworth (1976) has pointed out in his masterly overview of the history of mycology that there is a curious paradox in that, strange though we would think about it today, *isolation* of mycologists has often resulted in much productivity. Hughes and Vize lived in quiet rural isolation...

Not only might we consider the background of Queen Victoria's "60 glorious years" but also could consider what was going on in biology and mycology in the times of Vize. Living then were men who were changing our understanding of living things for ever (Darwin, 1809 - 1882; Wallace, 1823 -1913; Pasteur, 1820 - 1895; Koch, 1843 - 1910). It seems Vize was either unaware of their existence or importance, or, especially in the cases of the latter two bacteriologists, did not know about them at all. He was well aware of, and greatly influenced by another clergyman, the "Father of British Mycology" the Reverend M. J. Berkeley. Berkeley, like Charles Darwin, had been guided in an interest in living things by the Reverend J. S. Henslow, geologist and Professor of Botany at Cambridge. Apart from prolific work over the whole field of mycology, Berkeley showed in 1846 that the cause of the Irish Potato Blight famine was a fungus. He thus established the true nature of infectious disease in living things generally, anticipating the germ theory of disease of Pasteur by a quarter of a century. Vize was much interested in Berkeleys' finding that a "water fungus" in the group *Oomycetes* caused Potato Blight. This group includes the Downy Mildews or *Peronosporaceae*.

It is still difficult for us today to grasp that in 1846 (when Berkeley published about the fungus causing Potato Blight), the causes of infectious diseases of man were not understood. Vize mentions deaths of children in Forden from diphtheria in his papers. Another of the dreadful scourges of his parishioners was tuberculosis - the causative bacterium of which was not discovered by Pasteur until 1879. Vize became very interested in the Downy Mildews around his village. In one of his early papers, he makes the prescient remark that the dreaded diphtheria was "possibly caused by something living", "possibly a yeast-like fungus", spreading from person to person. Vize had no knowledge of bacteriology, but he got very close in this remark to the eventual discoveries of Pasteur and Koch.

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What can be found about Vize in Forden today? There is no memorial to Vize in the parish church of St. Michael and All Angels there, notwithstanding his pastoral work for over 40 years. He moved to Bristol when he retired, and died there, though it has not been possible to locate his grave (Mary English, Personal Communication). Study of the minutes of the Parochial Church Council reveals only the strictly church business, ending with J. E. Vize's impressive copper-plate signature, but revealing no hint about the vicar himself.



Fig 1 Photograph of J. E. Vize held in the library of the Royal Botanic Garden at *Kew*. Reproduced by permission.

His Wife died before him. In the 1990's a very old villager told me about J. E. Vizes' daughter Clara living with him at the vicarage. Study of dates and other papers makes it clear that Clara was not the daughter of the Mrs Vize known to Forden parishioners, and was of Irish origin. Clara Vize assisted her father with lists of plants (Vize, 1882). The same villager described Vicar Vize as being "of very dramatic appearance, (see plate) hurtling round the village at speed in a pony and trap" - a sight not forgotten by a child as she walked to and from the village school! Thus it is that we only have a tiny glimpse of Vize as a man - the village parson; busy a great deal of his time at his work-table, bent over his microscope illuminated by a paraffin lamp. He was also chaplain to Forden Workhouse (see later). Not only did this unpaid office take up much of his time, but the funeral duties there affected him greatly, especially the deaths of children, from what we now know were infectious diseases, there and in the parish of Forden.

Not only was Vize an acute observer of detail, but he was technically unusually skilled, making permanent preparations of many microscopic fungi on glass slides, as well as carefully pocketing and labeling dried specimens for storage. It was the custom in those times to sell collections of dried, named green plants. He probably supplemented his meagre income by selling both his glass slide collections and sets of pocketed dried specimens to a small number of museums and educational establishments. He had numbered lists of his specimens printed to go with them. These numbers are quoted in scientific papers today. There is a complete set of specimens produced in this way in the Herbarium at *Kew*. There is another set of his specimens in Bolton

Museum. A set of his labeled slides was until recently at Chester College. Some of these slides are still in perfect condition today, and include portions of named ferns and mosses for good measure! Vize principally concerned himself with rust fungi (*Uredinales*), smut fungi (*Ustilaginales*), and downy mildew fungi (*Peronosporaceae*). An elementary account of these three groups, with illustrations, can be found in Preece (1996). Almost all his specimens were collected in Forden, many in the Vicarage garden and nearby hedges and fields. The Vicarage and garden have changed very little since his day.

Vize is an unusual name, probably derived from Guise. The name is Irish, being recorded in Ireland since at least 1696. The father of J. E. Vize was born in Ireland in 1790 and was called Joseph Vize. His father was a University graduate, becoming B.A.(Dublin) at the age of 16. Joseph Vize worked in London as a school teacher. James Edward Vize was born in 1831 in the parish of St Mary-le-Bow. He attended Hackney Grammar School. In 1855, when he was 24, he travelled to Ireland to start as an undergraduate at his fathers' University in Dublin. By his twenty-seventh birthday, he had acquired a "Divinity Testimonial" and like his father before him, the degree of B.A.(Dublin). The following year he was ordained Deacon and began his first curacy at Bray, Co. Wicklow, Ireland. In that year his daughter Clara was born. In 1860 he was ordained priest in Chester Cathedral, and in 1861 he left Ireland forever to become curate for the second time at Trowbridge in Wiltshire. Here he became interested in identifying snails and produced a list of these in the *Wiltshire Archaeological Magazine* for 1866.

His next curacy was at St Saviours' Church, Bath. Here he again produced a list of snails (for Somerset) and attained the degree of M.A.(Oxford) *Comitatis causa*. In 1866 he began his fourth curacy at St Marys' Hulme, Manchester, publishing a short note there on "the mite troublesome to pigeons". The first intimation of his interest in fungi was in or immediately after 1870, when, at 38 years of age, he became the curate of Forden Church. Following this fifth curacy, he was made Vicar of Forden in 1873. He was to stay at Forden for 41 years. In a paper of 1883, Vize tells how the "old church" at Forden was demolished in 1865. There had been a chapel on the site since 1534 and the church records are complete from 1600. A new church (the one we see today) was completed by 1869. One could say, therefore, that Vize was at the start of his period at Forden, a "new" curate in a "new" church building. The church was built at a total cost of £3,259-2-7d, to seat 300 persons. The stone used included material from Minera, near Wrexham, from Coombe Down, near Bristol and with "bands" and arches of Red Grinshill Stone from nearby Shrewsbury.

In 1873, Vize states that his annual salary was as follows:-

Tithes under Lady Myddleton's will	£22-18-0
Queen Anne's Bounty	£57-02-0
Glebe Land Rent	£39-00-0
Payment by the Grocers Company	£181-00-0
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Total	£300-00-0

So began his active mycological years, collecting and identifying fungi, 1870-1890. He published his first note on "Eccentricities in the occurrence of fungi" in 1875 and his last, on "Fungi in the Powysland district found on Trees" in 1896 (see list of his 17 mycological papers). Just occasionally he collected fungi in Shropshire and Herefordshire, all the rest being from Forden. Vize was a member of the renowned *Woolhope Naturalists' Club* of Hereford, collecting and identifying fungi. Founded in 1867, this activity continued for 25 years. Vize attended some of these fungal "forays" where he met at least some people with mycological interests similar to his own -that is to say microscopic fungi. One of these was called Mordecai Cubitt Cooke (1825 - 1914), an enormously active mycologist working at that time (much of it at Kew) on microscopic fungi. Details of his life and contacts have been interestingly catalogued by Mary English (1987). Cooke was made an honorary member of the Woolhope Club on the same day as Vize, in 1876.

In 1881, the first fungal foray of the *Yorkshire Naturalists' Union* was held. Its' forays replaced those of the Woolhope Club. Vize was at this inaugural foray in Yorkshire, accompanied by William Phillips of Shrewsbury. In 1887, Phillips produced the first book on "cup-fungi" or discomycetes. Later we will hear about one of these, in the genus *Sarcoscypha* or Scarlet Elf Cups, in connection with Vize. A prominent Yorkshire mycologist, H. T. Soppitt, wrote that this 1881 Yorkshire foray had "the great advantage of the services of the Reverend J. E. Vize," because of his skills in identifying rust fungi and other microscopic fungi on leaves. When the national mycological society (the *British Mycological Society*) was formed at a meeting of the Yorkshire Naturalists' Union in 1896, Vize was made a Founder Member (Ainsworth, 1996).

In 1873 the year he became Vicar of Forden, Vize deposited at Kew his first parts of a set or collection of micro-fungi mostly rust fungi (Uredinales) bound in cardboard covers with a printed list of the specimens, each numbered. He called this 1873 - 1875 collection Fungi Britannici. Most of these were new specimens from Wales and some new records for Britain. He called his second

"set" of fungi *Micro-Fungi Britannici* in 1875 - 1888, and his third "set" *Micro-Fungi Exotici*, 1883. These collections are of considerable mycological significance. In 1889, Plowright produced the first book on rust and smut fungi of Britain. Prominent in its pages are 125 rust fungi collected at Forden, with their numbers, in the sets listed above. The Berkeley inspired interest of Vize in the Downy Mildews (*Peronosporaceae*) produced some important collections. Of the 27 species of Downy Mildews collected at Forden, 15 are the first collections of that species in Britain (Francis & Waterhouse, 1988; Preece, 2002). Other lists of the Vize collections of micro fungi are part of the basic British mycological literature (Bisby & Mason, 1940; Wakefield & Bisby, 1941; Grove, 1935, 1937). The cultivated plants of Forden Vicarage Garden were closely scrutinised by Vize. From potato crops in 1875 and again in 1886 he preserved specimens of the Reverend Berkeleys' potato blight fungus, *Phytophthora infestans*. In 1877 he described the aecia (a stage in the life-history of rusts) of the rust fungus *Puccinia violae* on a garden pansy (*Viola cornuta*), there. This stage of this rust had not been seen in Britain before. He published about pansy rust in the *Gardeners' Chronicle*- the magazine in which Berkeley wrote about the potato blight fungus. In 1894, he wrote an account of the fungi of Forden to be found in gardens.

In one of his most important papers from Forden (Vize, 1892) he lists over 600 fungi from this small village. This list includes large (macro-) fungi as well as micro-fungi. An additional list of 140 lichens is also appended by Leighton. It included mention of the Scarlet Elf-cup. In his *Micro-fungi Britannici* of 1875-1888, specimen 583 was of this fungus. It was not found again for 115 years in Montgomeryshire. Sue Swindells of the Border Field Club collecting it at Trawscoed Hall, Guilsfield in 1992, (Butterfill & Spooner, 1995). Many more examples could be cited which indicate the significance of Vize as an observant mycologist of his day.

It has been mentioned already that nucleic acid studies are providing new knowledge about fungi every day at the present time. The potato blight fungus has always been considered to have originated in Mexico, and spread to Europe. By analysing the DNA of herbarium specimens from Europe, including the Vize collections of 1875 and 1886 it has been possible to prove that the potato blight fungus in Britain in those years arrived in Europe from Bolivia and Ecuador in the Andes (May & Ristiano, 2004). These authors underline in their paper, the vital importance of stored herbarium specimens and forecast further advances in the understanding of plant disease genetics and epidemiology using such stored material.

This account of Vize has necessarily concentrated on mycology, because that was his most important contribution to posterity. He also wrote a paper on an unusual alga from ponds at Powys Castle (1880) and another about galls and distortions of plants in 1891. This latter paper has a curious footnote about a flattened hazel (*Corylus*) branch (we would describe it today in many plants as fasciation). Deposited in the

Powysland Museum in 1887 by the Mayor of Welshpool this was called the "jubilee twig. It was interestingly referred to in correspondence between the Mayor and the Powysland Club, in that year of Queen Victoria's Jubilee. Wyllie(1998) records that it was in that year, 1887, that the Museum and its contents, together with the library were handed over to the Mayor and Corporation of Welshpool as trustees.

Vize did much to record the details and history of the Forden Union (Workhouse) graveyard (1882). His paper gives much horrific detail of the life in and disposal of the dead from, the workhouse, of which Vize was the Caplain. He wrote three papers (1882 1883 & 1884) about the parish of Forden itself. The first, with its fungal records has already been mentioned. It included both bird and flowering plant records for the village, provided with the assistance of his daughter Clara. The second paper gives details of the history of the church. The last gives a mixture of information about farm ownership, archaeology, customs and games as well as the peculiar words used by parishioners. He was particularly taken with the word "moithered", used to describe mental agitation.

Turning once more to his mycology, his final fungal paper (1896) contains the words "my notion is that we with our microscopes do benefit society... Oh, that more students could be found... the need is clear, that young persons should become interested, when they will discover and put on records something new to the world."

In light of the current neglect of taxonomy, identification and related studies in biology as it is taught in the universities, these words are perhaps even more apt today in 2004 than they were in the reign of Queen Victoria.

By 1907, Vize wrote to Rev W. A. Leighton, author of a list of 140 lichen species of Forden, saying he was in bad health and was only able read spasmodically. He retired in 1910, on a pension of £98 sterling, moving to Bristol with his daughter. He died on 15th March 1916 at 147 Whiteladies Road, Bristol. He was 85 years old.

His only memorials are the fungal collections in institutes, such as Kew and the Bolton Museum, together with his publications. His contribution to Welsh mycology was considerable. In 1923, Kathleen Sampson at the University College at Aberystwyth began to write papers on the biology of smuts. In her presidential address to the British Mycological Society in 1938, she considered the life cycles of smut fungi, leading on from the collections of smuts from Forden and the work of mycologists with whom Vize was so familiar.

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LIST OF MYCOLOGICAL PAPERS BY J. E. VIZE

Vize J. E. 1875-1896 – The full titles of the journals in which most of these papers were produced are: *Transactions of the Woolhope Naturalists Field Club* and *Collections Historical and Archaeological Relating to Montgomeryshire and its borders*.

- 1875 *Eccentricities in the occurrence of fungi*. Trans Woolhope Club for 1874 - 1876. 147-148.
- 1876 *Acidium depauperans*. Gardeners Chronicle, 2, 361
- 1876 *Fungological difficulties*. Trans. Woolhope Club for 1874-1876 221-224
- 1876-1879 *Californian Fungi*(collected by W. H. Harkness). Grevillea 5, 109-111; 7, 11-13
- 1877 *On Aecidium depauperans*. Mont. Colls., 10 437-438.
- 1878 *On a singular development of the scores of Puccinia conii Eckl*. Mont Colls. 11 35-38.
- 1879 *The genus Peronospora (To which the potato disease belongs) and its allies*. Mont. Colls., 12, 167-182.
- 1880 *Spores of Puccinia conii Eckl*. Trans. Woolhope Club for 1877 - 1880, 58-60.
- 1881 *The fungi that attack wheat*. Trans. Woolhope . Club for 1881, 101-102
- 1882 *The Parish of Forden (Part 1)*. Mont. Colls., 15, 155-182. (Fungi 169-176; Lichens, by W. A. Leighton, 177 -178).
- 1885 *Researches into the oospores of some fungi*. Trans. Woolhope Club for 1883 - 1885, 261-263,
- 1885 *The genus Pestalozzia (Pestalotia de Not)* Trans. Woolhope Club for 1883 - 1885, 363-365
- 1889 *The Microscope as Applied to fungology*. Trans. Woolhope Club for 1886 - 1889, 70-72.
- 1889 *Some remarks on the Puccinia attacking Gallium*. Trans Woolhope Club for 1886 - 1889, 386-387.
- 1892 *Fungi in the Powysland District*. Mont. Colls., 26, 143-152.
- 1894 *Fungi in the Powysland District to be found in our gardens*. Mont. Colls., 28, 306-324.
- 1896 *Fungi in the Powysland District to be found on trees* Mont. Colls. 29, 133-154.