

## Why do plants grow where they do? or How I became an ecologist

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As with many young people, I had no burning desire for any particular career when I was at school. Very few individuals know what they want to do with his or her life, I certainly did not. I had never heard the word “ecologist” until I went to University as a mature student.

I was born, raised and educated in Worcester and have lived the majority of my life within a mile of the city centre. I have always been keen on all aspects of natural history sparked off by the nature table at St Stephens Junior School and gardening with Mum and Dad at home. Similar to many youngsters, I collected interesting finds. I had an old biscuit tin hidden under my bed that held a prized collection of feathers, cones, small bones and leaves. Sometimes the tin would emit a malodorous whiff as something decayed, but this collection of finds was immensely inspiring to my budding interest in nature as I grew up.

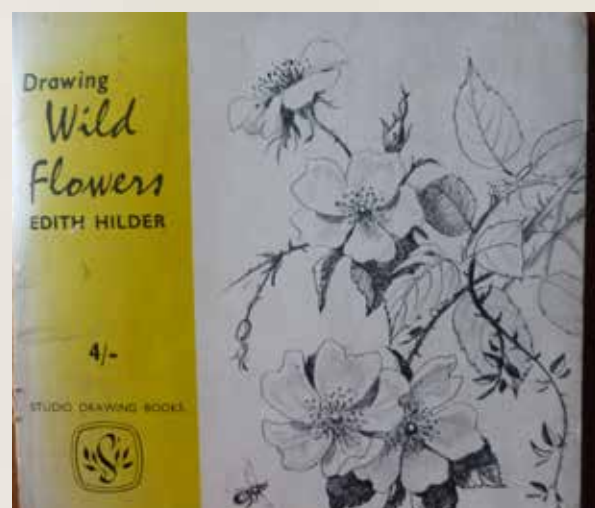
Books and reading have always been a great love of mine. At the age of 9, I was an avid reader of *The Ladybird Book of British Wild Flowers* and *The Observer's book of Wildflowers*. Aged 10, I was awarded *Drawing Wild Flowers* by Edith Hilder as an attendance prize from Sunday School. My father was a brilliant artist in his spare time and there were always pencils and paper at home and I was encouraged to start sketching. I gradually started drawing flowers and eventually won first prize in the “Brooke Bond National Travel Scholarships and Educational Awards”. My prize was a signed copy of *What Shall I Draw* by Adrian Hill which showed me how to make pencil sketches of trees.

When my parents bought me a bike for passing my 11-plus exam my world opened up!!! I was independent. The roads were quiet and I was allowed to venture further afield and to explore the lanes of Claines on my bike. Waysides were unspoilt and were full of unfamiliar flowers and grasses which I collected for later identification and pressing. My library continued to grow and, by the age of 12, I had



both *The Observer's Book of Trees* (cost five shillings) and *The Observer's Book of Grasses, Sedges and Rushes* by Francis Rose (cost six shillings). Drawing the details helped me to begin to identify and understand the structure of plants. I continued with my drawings for many years before other interests took over although I am still drawn to botanical illustrations and the level of detail that goes into a line drawing.

I continued with botanical drawings at the City of Worcester Grammar School for Girls. I still





have my Biology exercise books and pressed wild flower collection from my first three years and they make a fascinating read. Topics covered were varied from basic botany with lots of botanical line drawings of wildflowers, leaves *etc.* to “The use and construction of garden tools”, through to detailed description of birds’ nests and eggs. I had forgotten my collection of Brooke Bond tea cards “Wild Birds in Britain”. Reaching my fourth year at Grammar School and choices of subjects to study I was strongly discouraged from studying Biology and persuaded to study Chemistry and Physics which I disliked and could never fully understand. My botanising came to a halt and I left grammar school at the age of 16, with five O-levels (none of them in the sciences), and with no idea of what to do next.

The next decade or so was spent in nursing, raising a family, looking after parents and working. In addition to family and working life, my love of the outdoors extended to interests in walking, mountaineering and water sports. In our spare time Graham and myself were enjoying the outdoors and collecting outdoor qualifications with a view to working

in the Outdoor Training environment when he retired from the police service. In the mean time I started work in the Civil Service. I never intended to be a civil servant. I had a few minutes to spare one day after dropping the children off at primary school and I wandered into the job centre. I came out with a job offer to start work at the unemployment benefit office the following Monday. The civil service was a good employer and I received lots of training and travel opportunities. I eventually became a training officer for the Midlands region; travelling lots and enjoying my work. After more than ten years in the Civil Service, change came with the introduction of Agency status and training was put out to tender. Fantastic news: I was offered a severance package which, after a bit of agonising, I accepted. Graham’s retirement was a few years away, the children were at University and following their own activities and our caring responsibilities were manageable. I was free - I was able to follow my own interests.

I cannot remember why, or where I got the courage and idea from, but in April 1995 I wrote to the botany department of the University of Worcester (then called Worcester College of Higher Education) to find out if they would accept me as a mature student. I had five O-levels but no A-levels and no formal learning for a number of years. However, I did have clear motivation to guide my studies: I wanted to know **“why plants grow where they do”**. I was invited for an interview!

It was fortuitous that I had entered the Civil Service because the nationally recognised qualifications I had achieved as a training officer were used as accreditation for University entry. I was given an unconditional offer to study for a two-year Diploma of Higher Education course in the Scientific and Technological Aspects of Environmental Management (the Diploma, with a long title, only ran for three/four years and then was cancelled due to lack of funding). As a mature student the joy of the Diploma was that I did not have

to agonise over what modules to select. I had very little knowledge of what subjects were available to study. However, the course was full-time and structured: no thought or decisions were necessary on my part. The Diploma ran for five full days every week for two years in term time. At least one day every week was spent at Herefordshire College of Agriculture at Holme Lacy. I learnt hedge laying, stone wall building, forestry skills, stile building and I gained my chain-saw licence. Class-room based lectures included historical ecology, botany, grassland ecology, woodland ecology, landscape ecology, environmental sciences and statistics. The Diploma was an excellent introduction to academia and to the natural world. I loved it. In particular, the grass ecology module introduced me to Hubbard's *Grasses: A Guide to their Structure, Identification, uses and Distribution in the British Isles*. A fascinating comprehensive read with excellent descriptions and illustrations. This was when I realised how much I enjoyed the complexities of a well written key and the joy of following through the couplets and being able to identify a species.

In April 1997, whilst at University, the Worcestershire Wildlife Trust (WWT) magazine dropped through our letterbox. Inside the magazine was a notice advertising the sale of a 6.5 acre Nature Reserve woodland, It did not take us long to decide to use my severance package to purchase the woodland, known as Whitethorn Bank. We were so lucky. The woodland is located at Rushwick, just outside Worcester and within a few miles of home. We would be able to put the nature conservation theories and woodland skills learnt at University into practice for the benefit of nature conservation.

At the end of the two-year Diploma, I transferred onto the final year of a Biological Science and Environmental Science degree. I approached WWT for a local practical study for my undergraduate dissertation. Andrew Fraser and Simon Barker asked me to study

"the translocation of an MG5 grassland in Worcester City". Brilliant. An astonishing local research project that I could walk and cycle to. I graduated with a first class honours degree in Biological Science and Environment Science in 1998.

I realised that I enjoyed studying, statistics and phytosociological analysis so after graduating I decided to continue at university and study for a PhD. I was not sure what I wanted to study but knew that the research had to be practical, be outdoors and local to Worcestershire. Again, I approached Andrew Fraser at WWT and also Peter Holmes at Natural England. Together they asked me to base my research on the woodlands of the Malvern Hills and Teme Valley. Another superb local research topic.

So where did my interest in bryophyte flora come from? My PhD was entitled *Plant Species as Indicators of Ancient Woodland in the Malvern Hills and Teme Valley Natural Area*. My external supervisor suggested that I ought to include the lower plants as well as the higher plants. Up to that stage I had only concentrated on vascular plants and had very limited knowledge of mosses and liverworts. I went on a number of Field Studies Centre courses on bryophytes but the turning point in my bryophyte journey was attending a training course run by Lorna Fraser and Tessa Carrick at the Worcestershire Wildlife Trust at Lower Smite Farm. I was hooked. I now realise, in my ecological journey to study organisms and how they interact with the environment around them, that bryophytes are of great ecological importance. They colonise sterile soils, absorb nutrients and water and release them slowly back into the ecosystem, contributing to the formation of soil for new plants to grow on. I have now been the bryophyte recorder for VC37 for over twenty years!

Field survey work for my PhD was done between April and September 2000 and May and September 2001 although the outbreak



# Wyre Forest Study Group

of foot-and-mouth disease in 2001 limited the 2001 fieldwork. Sixty-six woodlands (except one) were visited twice in different seasons, at least once during the April to July period. Then another year writing up the results.

Lots of interesting and valuable opportunities came my way whilst studying for my doctorate. In the summer of 2001, whilst writing up my PhD thesis, I was incredibly fortunate to be awarded a Natural England contract to record the phytosociological communities of the woodlands in the Teme Valley (April to September 2002). In February 2002 I had the opportunity of a 3-day work placement with Worcestershire County Council's landscape archaeologist. The information learnt was invaluable to my studies on woodland archaeology. I also worked as a consultant ecologist (October 2002 until September 2003) doing numerous Native Woodland Plans and Woodland Grant Surveys. During all my academic studies, I worked continuously as a part-time climbing instructor at Sport Martley: a great way of unwinding from my studies.

One stand-out inspiring occasion, and a highlight of my academic studies, happened in May/June 2003 when Graham (who was also now an undergraduate) and myself attended a 4-day international conference *Working And Walking In The Footsteps Of Ghosts* held at Sheffield Hallam University. Presenting papers and leading discussion groups were the eminent woodland ecologists and outstanding scientists: Keith Kirby, George Peterken, Oliver Gilbert, Martin Hermy, Charles Pigott, Oliver Rackham, Ian Rotherham, John Rodwell, Della Hooke, and the Dutch biologist and conservationist Franz Vera whose groundbreaking book *Grazing Ecology and Forest History* had just been published. By chance or by luck, and because we were at the end of the queue when booking on the associated field trip we ended up with the last seats on the last available field trip - it was with all the "gods" – the authors of all the reference books used in my doctoral research. We travelled

in a mini-bus around Sheffield woodlands with Melvyn Jones' running commentary on the heritage and historic significance of the woodlands. The field trip included a visit to an early industrial woodland at Eccleshall Woods and a short walk to look at charcoal-making hearths and mysterious Q-pits. There was much open and lively discussion and debate between "the woodland gods". We were both included in all the discussion and made to feel very welcome despite our lack of knowledge. Graham and I just listened and absorbed it all. This afternoon session was to become a seminal moment for both Graham and myself and the encounter became of great importance and influence within our particular scientific disciplines. I finally submitted my PhD in September 2003 still with no clear idea of what I was going to do next but I was starting to understand **why plants grow where they do**.

I was immediately approached to work full-time in a local ecological consultancy. Working in the consultancy gave me the valuable chance to explore the ecology of many different habitats. Up until then I had broadly concentrated on grassland and woodland habitats in Worcestershire. Consultancy work gave me the opportunity to look at a variety of habitats throughout the UK and to contrast and compare with our local habitats and sites. I particularly enjoyed and valued surveying abandoned industrial sites and derelict urban spaces: the majority of sites supported botanical surprises. I would wonder about the ecological processes that had determined the richness and composition of the plant communities in these forgotten habitats.

Graham and I set up Hills Ecology Ltd in January 2007. There was a steady flow of ecological survey work mainly associated with planning applications from around the county and UK. Then, in May 2012, whilst doing the household shopping at Tesco's supermarket, I received a telephone call from Natural England to say that we had been awarded a contract to undertake a National Vegetation

Classification Site Survey and Monitoring at the Black Mountains Site of Special Scientific Interest, Herefordshire. This contract became the highpoint of mine (and Graham's) ecological career. It brought together my higher and lower plant identification skills, my phytosociological (the study of groups of species of plant that are usually found together) expertise, Graham's mapping talents and our love of the outdoors especially the Black Mountains. A mountainous terrain that we both loved. I had to pinch myself, and continued to do so, all through the summer of 2012 whilst surveying a wonderful landscape and habitat. Although a physically and mentally demanding job what fun! At the end of 2014 we closed Hills Ecology to focus our energy and expertise on our woodland, Whitethorn Bank, and our garden.

I feel that I have been very fortunate in my life and career. I live in an amazing county, rich in flora and habitats. My interest in natural his-

tory and in particular ecology has slowly developed over the years. I have been very privileged to be able to follow my interests. My career has been a culmination of chances and opportunities. There has been so many helpful and local ecologists, botanists and bryologists in my life always willing to offer help. My ecological career would not have been possible were it not for the guidance of these individuals: to all these I give my sincere thanks. Without their support I would have been left with so many unanswered questions.

In conclusion, do I now know ***"why plants grow where they do?"*** Not completely: there are always surprises in nature and I have finally learnt that some plants do not follow the text books or the rules!



Quadrat on the Black Mountains

Ann Hill