

THE BIOLOGICAL FLORA OF *TILIA PLATYPHYLLOS*: A LANDMARK ACCOUNT

This year *Journal of Ecology* publishes its last print issue after a run of 108 volumes. Fitting then for this momentous issue to include a momentous Biological Flora of the British Isles article: Donald Pigott's account of the Large-leaved Lime. BFBI Editor, **Anthony Davy**, tells us more about the significance of this account and Pigott's work.

At the age of 92, Professor C.D. (Donald) Pigott must be by far the most senior contributor to the *Biological Flora of the British Isles* – and one of the most distinguished. His masterful account of Large-leaved Lime (*Tilia platyphyllos*) in *Journal of Ecology* 108:6 (doi.org/10.1017/S002219572000077b) is the culmination of a life-time's study of Lime trees and complements his similarly comprehensive earlier account of Small-leaved Lime (*Tilia cordata*) published in 1991. Beyond the confines of the Biological Flora, Donald is an undisputed international authority on Lime trees: his *Lime-trees and Basswoods: a Biological Monograph of the genus Tilia*, published by Cambridge University Press in 2012, is recognised as the definitive treatment.

In retirement Donald lives in the English Lake District, where his garden boasts some 20 Lime trees. There are many species from around the world, including one of his own naming, *Tilia concinna* Pigott. The photograph (right) shows him in the company of a particularly venerable tree of *T. platyphyllos* in France that is referred to in the account. The account itself also has a long history – according to the *BES Bulletin* (vol. 2, part 2), this account has been recorded as in preparation since 1971. We play a long game and rarely give up!

Donald's roots are deeply embedded in British plant ecology and the Biological Flora project. He believes he is the last surviving ecologist to have demonstrated his research in the field to Sir Arthur Tansley. We celebrate Tansley, of course,

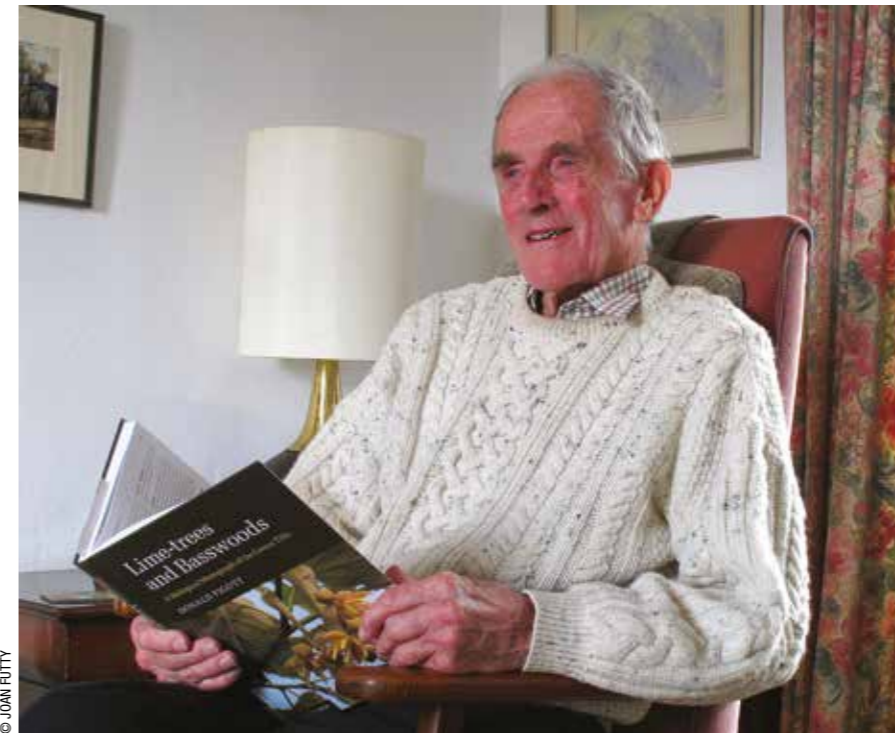
not least as the first President of the BES and for having founded the *Journal of Ecology* in 1913. As the *Journal of Ecology* embraces online-only publication, how fitting that this account should appear in the final issue to appear in print, 108 years later. Donald has served the Biological Flora variously as author and editor over some 65 years. After training in the famous 'Cambridge school' of plant ecology, he moved to a lectureship at Sheffield University in the department of founding co-editor of the Biological Flora, Professor A.R. (Roy) Clapham. Along with Professor Paul Richards, already an editor,

he was invited by the BES to revise the Biological Flora schedule and he became its operative editor in 1955. Donald remains one of the longer-serving editors of the series, having held the post for more than 20 years.

Donald's PhD work at Cambridge, under the supervision of Professor (later Sir) Harry Godwin had been on cytotaxonomy of the British Thyme species (*Thymus polytrichus*, *T. serpyllum* and *T. pulegioides*) and this led to his own first Biological Flora account in 1955. This account was the first to employ distribution maps based on



Two veterans: Donald Pigott in June 2013 with a historic specimen of *Tilia platyphyllos*. This tree was planted in 1477 in the Franche Comte, France, to mark the marriage of the Duchess of Burgundy to Maximilian, the heir to the Holy Roman Empire.



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A recent portrait of Professor Donald Pigott, with his magnum opus *Lime-trees and Basswoods: a Biological Monograph of the genus Tilia*.

the 10 x 10 km squares of the National Grid ('hectads'), which he helped to pioneer, and are now the ubiquitous mapping standard. While in Cambridge he had become interested in some of the species whose pollen had been identified in the Late Glacial by Godwin. An example of this was Jacob's Ladder (*Polemonium caeruleum*) which was still native in Derbyshire, at its southern limit, where it was growing on wet, north-facing limestone cliffs. This offered the opportunity to study the contrasting climates of north- and south-facing cliff faces. To his surprise the north-facing shade temperatures matched those of southern Greenland! His Biological Flora of *Polemonium* was published in 1958 while still at Sheffield. He then matched this with a study of Dwarf Thistle (*Cirsium acaule*) at its northern limit, where it was restricted to south-facing limestone slopes, in a Biological Flora produced in 1968 after joining Lancaster University as a founding Professor of Biology. The account of *Tilia cordata* came during another spell at Cambridge, this time as

Director of the Botanical Gardens (there had also been a return to Cambridge between Sheffield and Lancaster).

Donald's Biological Floras have rigorously pursued the climatic, edaphic and cultural influences on plant distribution; they are furnished with detailed physiological measurements, insights into soil chemistry and the meticulous collation of historical records. Their clarity is enhanced by the author's own botanical drawings – a skill that few younger contributors can call on these days. He has also been able to draw more than most authors on the German-language literature, in part a linguistic legacy of his successful treatment for TB in a Swiss sanatorium as a young man, in the early days of antibiotics. In this new account, *Tilia platyphyllos* is shown to be rare as a native and restricted to old, relict woods in England and Wales, where it is often found on calcareous and brown soils of low phosphate status. In contrast to *Tilia cordata*, with which it hybridises, it was mainly planted, probably first

in monastic times then more widely since the Middle Ages. The hybrid (*T. x europaea*) is widespread in parks, towns and gardens throughout lowland parts of the British Isles and has led to difficulties with identification and over-recording of *T. platyphyllos*. Evidence presented in this account alleviates previous doubts about its native status; previously it had been believed that it might have been introduced from France by monks (White Canons) in Medieval times.

IT IS HARD TO IMAGINE THAT WE SHALL EVER HAVE AN ACCOUNT BY AN AUTHOR WHO HAS A MORE INTIMATE, DETAILED KNOWLEDGE OF THEIR SPECIES.

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Biological Flora of the British Isles (BFBI) is a series of autecological accounts of plants found in Britain, published by *Journal of Ecology*. You can browse the full BFBI database, which currently holds over 350 records dating from 1941 to the current day, at: britishecologicalsociety.org/biological-flora-database/

If you are interested in contributing an account, please contact Anthony Davy: A.Davy@uea.ac.uk