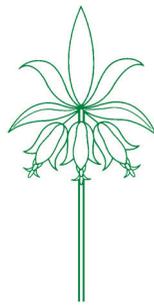


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William Allport Leighton's *A Flora of Shropshire* (1838–1840): Dating and publishing history, bibliographical description and a scientific appraisal

R. B. Williams

Abstract

William Allport Leighton's *A Flora of Shropshire* was published in three parts, ostensibly by John Davies (who also printed it) in Shrewsbury, England, and by John Van Voorst (who was merely the selling-agent) in London. Leighton sold his copyright to Davies, who underwrote the publication. The scientific appraisal and bibliographical description provided herein correct several perpetuated misconceptions about the dating and financing of this work, as well as certain baseless criticism that has unjustly impugned Leighton's reputation. For this study forty-eight copies of the book and three complete or partial sets of the rare original parts (all that are known) in repositories in the United Kingdom were examined; the number printed is unknown. There is only one edition, the parts and the consolidated volume being of the same typesetting. The title-page exists in two states, presumably to differentiate copies for sale in Shrewsbury or in London. Most bibliographical sources incorrectly record the publication date of the consolidated volume as 1841; it was actually published in 1840, although 1841 is printed on both of the alternative title-pages. Secondary sources reveal that the parts were issued in 1838, 1839 and 1840. The publishing history herein addresses the responsibilities and financial risks of each publisher; the dating of the parts and consolidated volume; the printing of the letterpress and plates; and the publisher's variant cloth casings. The bibliographical description includes detailed contents of the parts and the whole volume, in case the validity of any new taxa and nomenclatural acts published in this book might require reassessment in the light of its revised dating. The twenty plates of anatomical drawings are etchings, executed by Leighton himself; some exist in various states produced by certain printing practices that may be previously undescribed. Difficulties in their production might have been at least partly responsible for the protracted publication of the whole work, but there is also cogent evidence that Davies encountered a funding problem after the second part was issued. After earlier

sales had apparently fallen off, the stock was acquired in 1858 by another publisher, William Pamplin of London, who offered copies for sale at one-third of the original published price. The work was out of print certainly by 1891 but probably much earlier.

Keywords

Alternative title-pages; John Davies; etchings; *Flora of Shropshire*; William Allport Leighton; nineteenth century; William Pamplin; parts-issues; publisher's cloth cases; publishing history; remainder publishing; spurious dates; states of plates; John Van Voorst

Introduction

A Flora of Shropshire (hereinafter referred to as *The Flora*) by William Allport Leighton (1805–1889) is recorded by the academic libraries comprising Library Hub Discover¹ as a single volume published in 1841; and likewise, with two rare exceptions (see later), in the majority of catalogues, and biographical and bibliographical accounts that I have consulted. However, Stafleu and Cowan (1976–1988, 2:828), although recording its publication as 1841, as did most other authors, remarked that “According to PR (ed. 1)² this book was published in three parts between 1838–1841. We have found no further data confirming this.” Hence it appears to be not generally known that *The Flora* was indeed published in parts, in fact commencing in 1838 and completed in 1840, when the consolidated volume was also published (Williams 2019a). The date 1841 printed on the title-page (Leighton 1841[1838–1840]) is therefore spurious.

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Virtually since its original appearance, misconceptions and speculations about *The Flora*, its publication dates, its scientific value, the reason for its extensive species descriptions, its financial backing, and the true identity of its publisher have been perpetuated. With particular reference to recent somewhat unjust criticism of Leighton's approach to botanical descriptions, and unfounded speculation about his motive, the writing of *The Flora* provides a classic example of situations about which Nathan E. C. Smith (2020, p. 374) has observed, "Whilst participant histories often add a level of colour to their topics, through giving a greater depth to the characters involved, it is easy for opinion to become orthodoxy if left unchallenged."

A thorough reassessment of the circumstances surrounding the writing and publishing of *The Flora* is therefore needed, recognizing "the importance of separating facts from opinions and going back to original sources to find them" (Livingstone 2021). Although *The Flora* includes few descriptions of new taxa, it contains significant nomenclatural acts involving new combinations, changes of taxonomic status, and synonymies, the priorities of which, considering the correct dating herein established, may require reassessment by botanists. Hence, now provided are a comprehensive publishing history of *The Flora*, including dating of the rare and little-known parts, a scientific appraisal, and appendices providing detailed bibliographical descriptions and contents of the parts and the consolidated volume.

The publishing history of *A Flora of Shropshire*

Background

Before writing *The Flora*, Leighton had already published brief notes on some of the

plants to be found in the vicinity of his home town of Shrewsbury, Shropshire (Leighton 1835a, 1835b, 1835c, 1835d, 1836a, 1837a). Although he ceased writing short botanical notes in the late 1830s, during his work on *The Flora*, he resumed them after its completion (Royal Society of London 1867–1872, 3:943–944). A letter³ written on 4 April 1836 to Thomas Salwey (1791–1877) indicates that Leighton's concept of his *magnum opus* was already well developed in 1835:

I cannot sufficiently express my grateful sense of your kindness in your proffered assistance in furnishing a list of the localities of the rare plants of Shropshire for my intended Flora. Of the difficult tribe of the Lichens I must candidly confess my almost total ignorance at present and your kind communication will therefore prove doubly valuable and acceptable whenever your leisure will permit you to forward it... In compiling a Flora Salopiensis⁴ it was my first intention to have printed a mere catalogue of the plants arranged according to the Natural System with all the localities I could collect & had observed. This would have been a task of moderate labour; but in compliance with the wishes of many botanical friends I was at the beginning of the present year induced to alter my previous plan, and to arrange the work on the Linnean System, describing each plant fully. This will consequently occupy more time and require more attention and minute observation; I have therefore allotted the present summer and succeeding winter to write my descriptions as far as practicable from living specimens. A few only of the first Linnean Classes are at present completed and fairly copied out although subsequent acquisitions will require insertion. There is little probability of my being enabled to go to press with the first portion the Phaenogamous plants much under eighteen months from this time.

Moreover, in a letter dated 23 May 1836 (Leighton 1836b), Leighton revealed that he had already been collecting specimens for *The Flora* "for several years past". Taking advantage of the tried and tested naturalists' networking system for exchange of information and specimens (see Allen 1976), Leighton acknowledged that "Through the kindness of numerous botanical

friends and my own exertions, I have been fortunate enough to have ascertained the localities of upwards of eight hundred and fifty flowering plants as indigenous to Shropshire, exclusive of innumerable varieties, and of any of the beautiful cryptogamic tribes” (Leighton 1836b).

Ultimately, *The Flora* comprised only flowering plants, issued in three separate parts (Leighton [1838], [1839], 1841[1840]), culminating soon after issue of the final part with publication of the consolidated volume (Leighton 1841[1838–1840]). Some years later, Leighton issued a complementary *Fasciculus of Shropshire Rubi*, “a series of dried specimens of brambles in illustration of my ‘Flora of Shropshire’” (see Leighton 1848, p. 71). This collection comprised, in effect, a revision of the genus *Rubus* dealt with in *The Flora*, representing Leighton’s latest views; the *Fasciculus* included 26 dried specimens (Anonymous 1847).

Rôles of the publishers

Pritzel (1851, p. 153) and Freeman (1980, p. 210) recorded John Van Voorst as the sole publisher of *The Flora*. However, according to the title-page(s), it was published in Shrewsbury by John Davies (fl.1830s–1850s), and in London by John Van Voorst (1804–1898), as correctly recorded by Pritzel (1872, p. 181) and Stafleu and Cowan (1976–1988, 2:828). There are two states of the title-page, one showing Davies first (Fig. 1), the other showing Van Voorst first (Fig. 2), which accounts for the erroneous attributions of the book solely to one or the other of those publishers that may be found in many academic library catalogues and booksellers’ trade catalogues.

Davies owned a successful business as printer, stationer, bookbinder, publisher and bookseller in Shrewsbury for some years (Bagshaw 1851, p. 99; Hodson 1855, p. 40) and

also ran a circulating library (Bagshaw 1851, p. 125); he had already printed and published other books for Leighton (1836a, [1837b]). Van Voorst had commenced publishing in 1834; many recent studies of the printing and publishing histories of his productions have revealed details of his various business strategies (Williams 1988, 2004, 2012a, 2012b, 2014, 2017a, 2017b, 2017c, 2017d, 2018a, 2018b, 2018c, 2018d, 2019a, 2019b; Williams and Callery 2008; Williams and Torrens 2016). However, the nature of the particular business arrangements between Leighton, Davies and Van Voorst in the case of *The Flora* has not hitherto been investigated, with the result that over the years much erroneous speculation has been disseminated. A considerably fuller and more accurate understanding of its publishing history is now possible.

It was Davies whom Leighton contracted to carry out the printing (see *The Flora*, p. [574] for the printer’s imprint) and also to act as the primary publisher, since Davies’s name appears as the first of the two publishers on the wrappers of the parts (Figs. 3, 4, 5). Having bought the copyright from Leighton (see later), Davies apparently requested Van Voorst to handle sales of the book in London and to publicize it even more widely.⁵ That Van Voorst played only this subordinate rôle to Davies in publishing *The Flora* is evidenced by what is clearly the very first letter (dated 21 December 1841) that Leighton ever wrote to Van Voorst, more than a year after its completion. Therein, when proposing a projected “History of British Shrubs”,⁶ Leighton had need to remind Van Voorst of his part in marketing *The Flora*: “As however I am totally unknown to you I must crave your indulgent [illegible word] in referring you for my qualifications for the task to my Flora of Shropshire (of which you are the London Publisher) and which I believe bears a favourable character among my brother Botanists.”

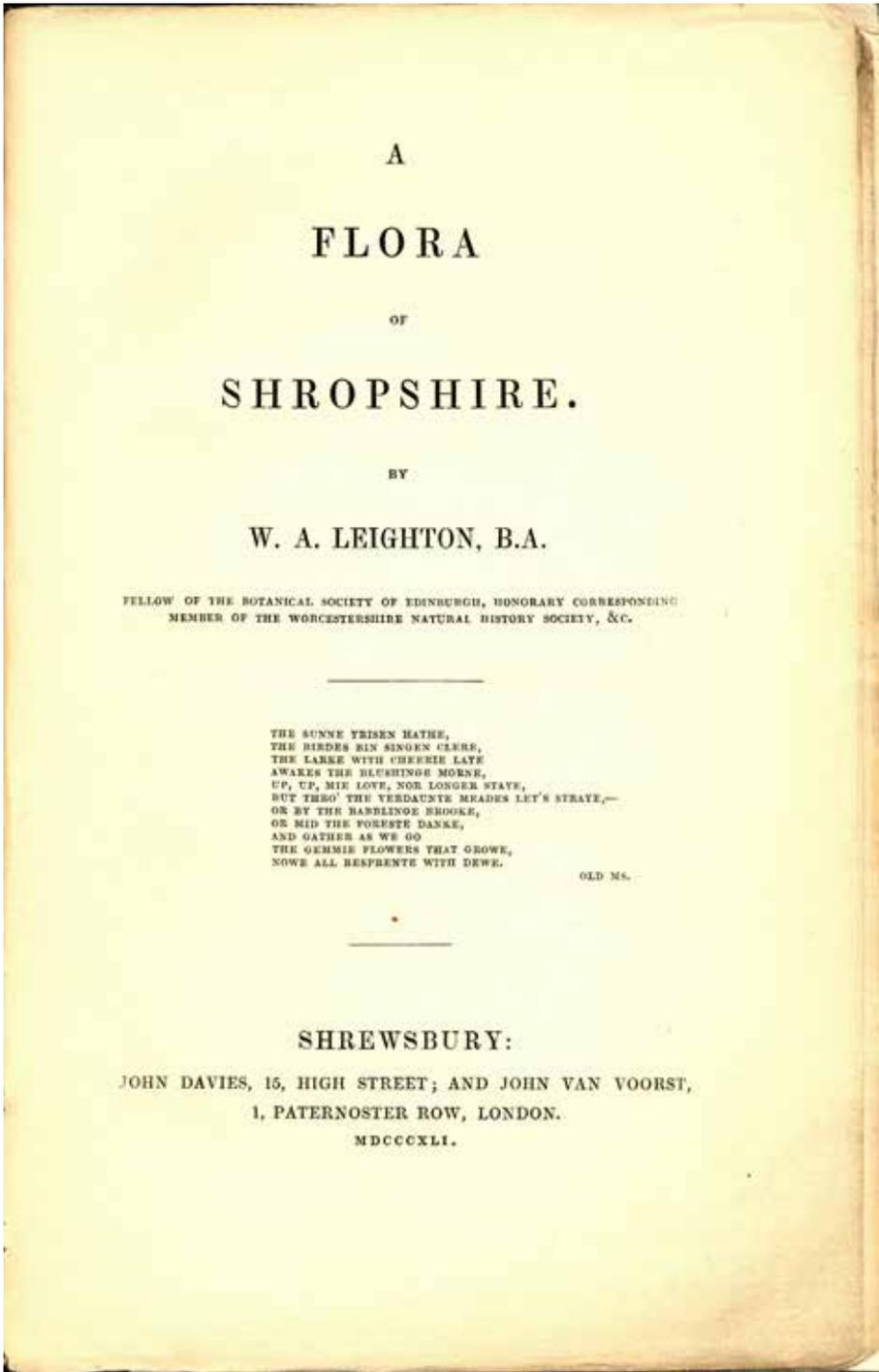


Figure 1. Davies state of title-page of *A Flora of Shropshire* in copies apparently intended for sale in Shrewsbury (actual size 222 × 142 mm). Photo R. B. Williams, 2018, personal collection.

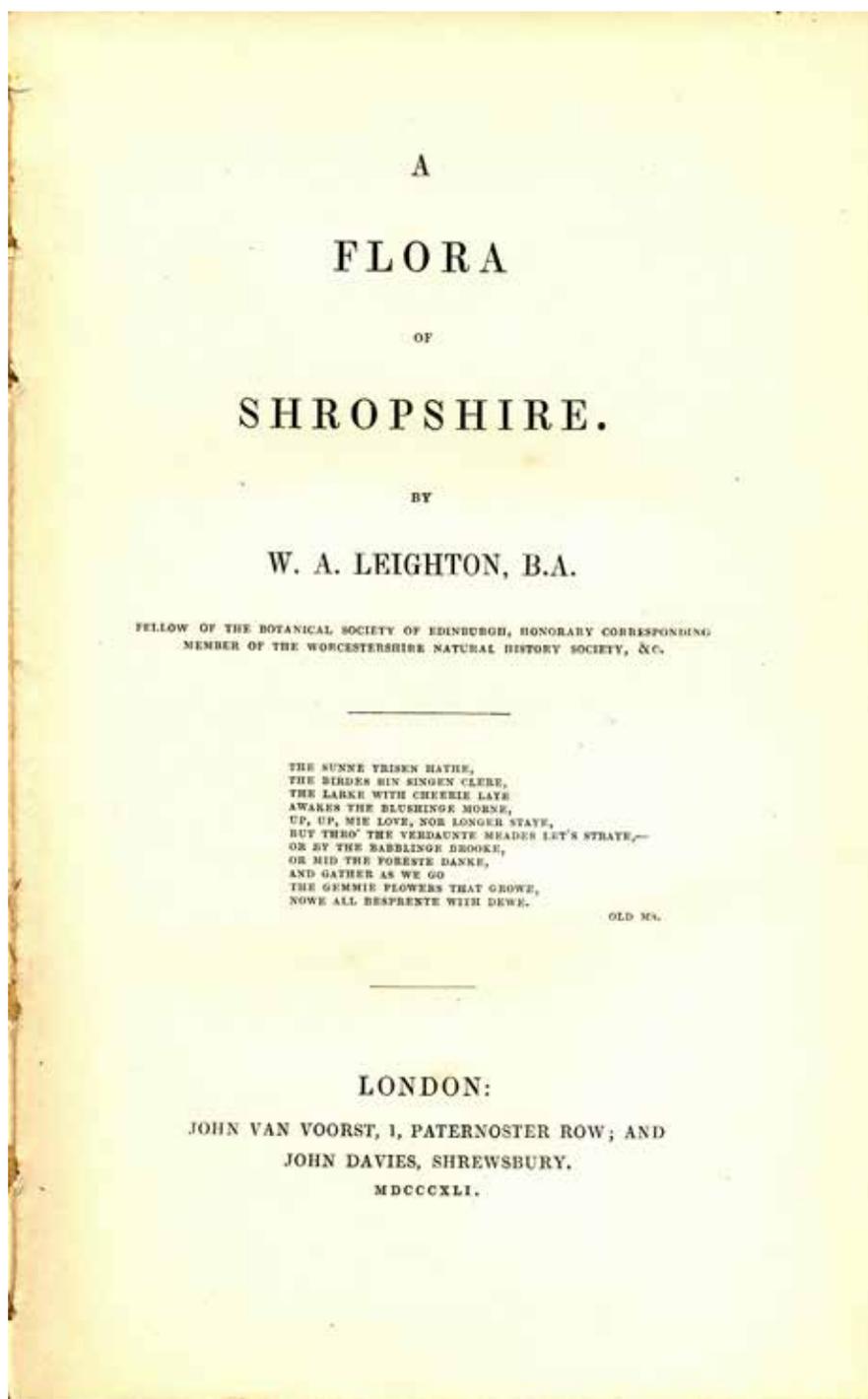


Figure 2. Van Voorst state of title-page of *A Flora of Shropshire* in copies apparently intended for sale in London (actual size 222 × 142 mm). Photo R. B. Williams, 2018, personal collection.

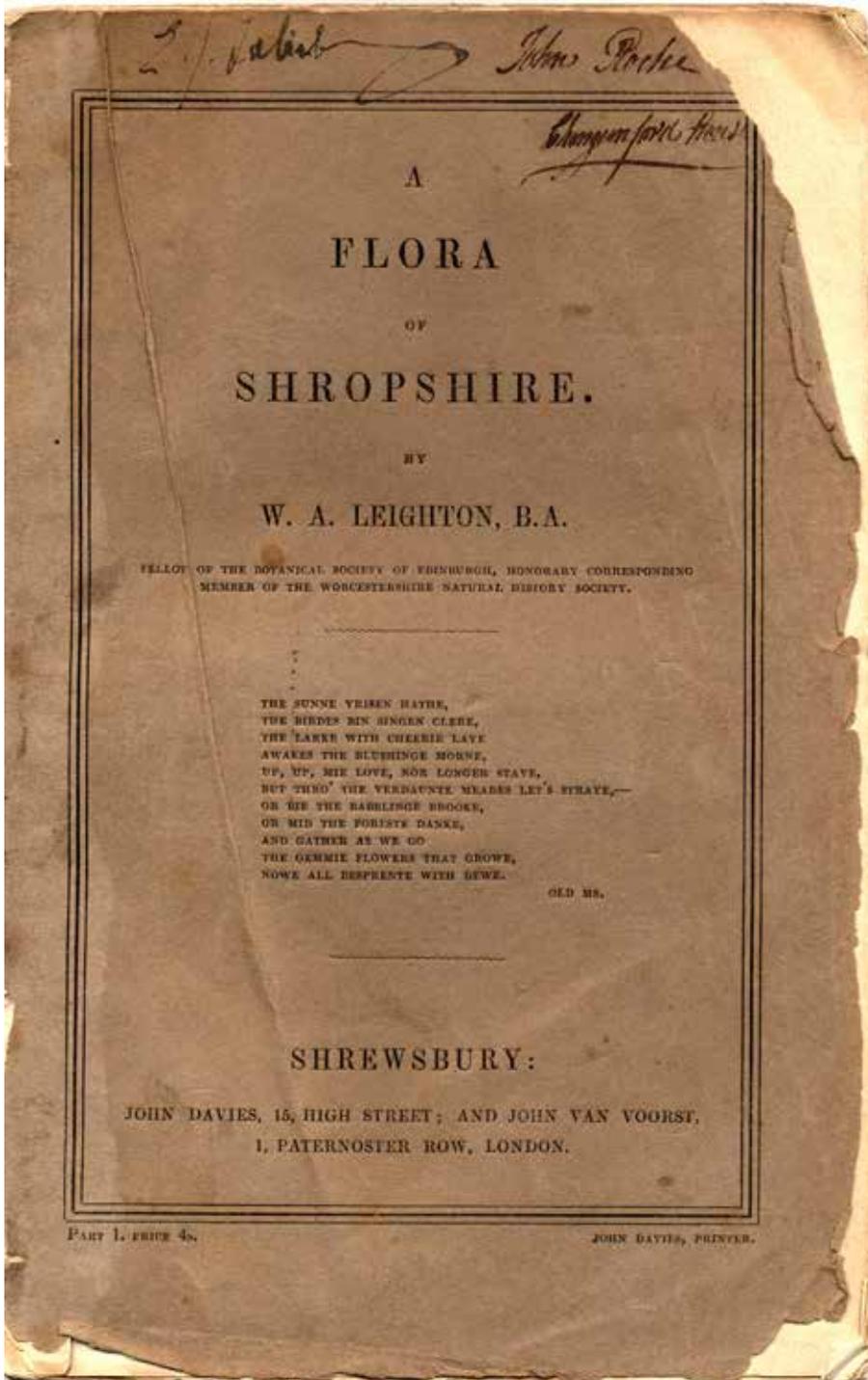


Figure 3. The front wrapper (p. w[1]) of part 1 of *A Flora of Shropshire* (actual size 222×142 mm). Photo M. Rickard, 2021, personal collection.

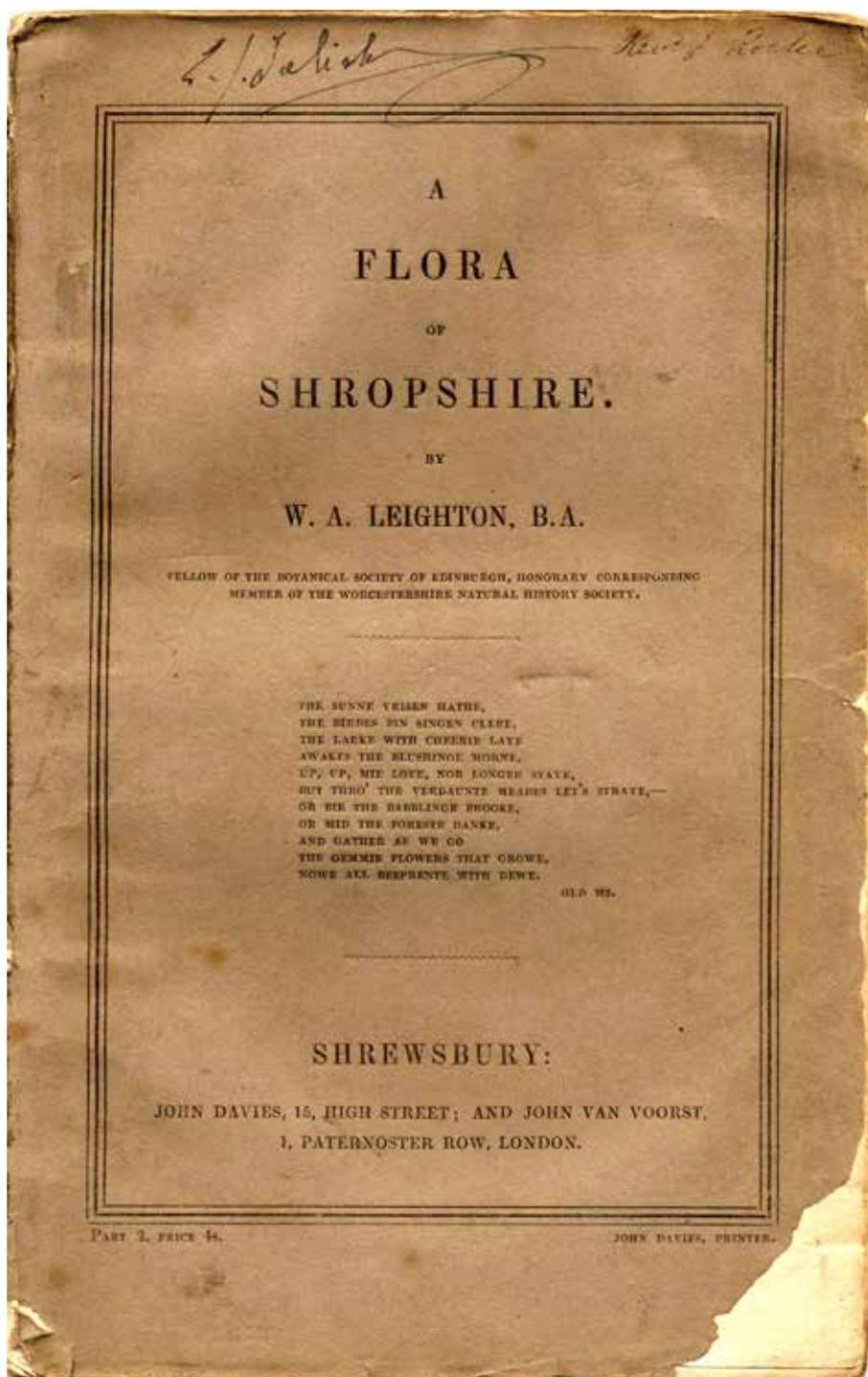


Figure 4. The front wrapper (p. w[1]) of part 2 of *A Flora of Shropshire* (actual size 222 × 142 mm). Photo M. Rickard, 2021, personal collection.

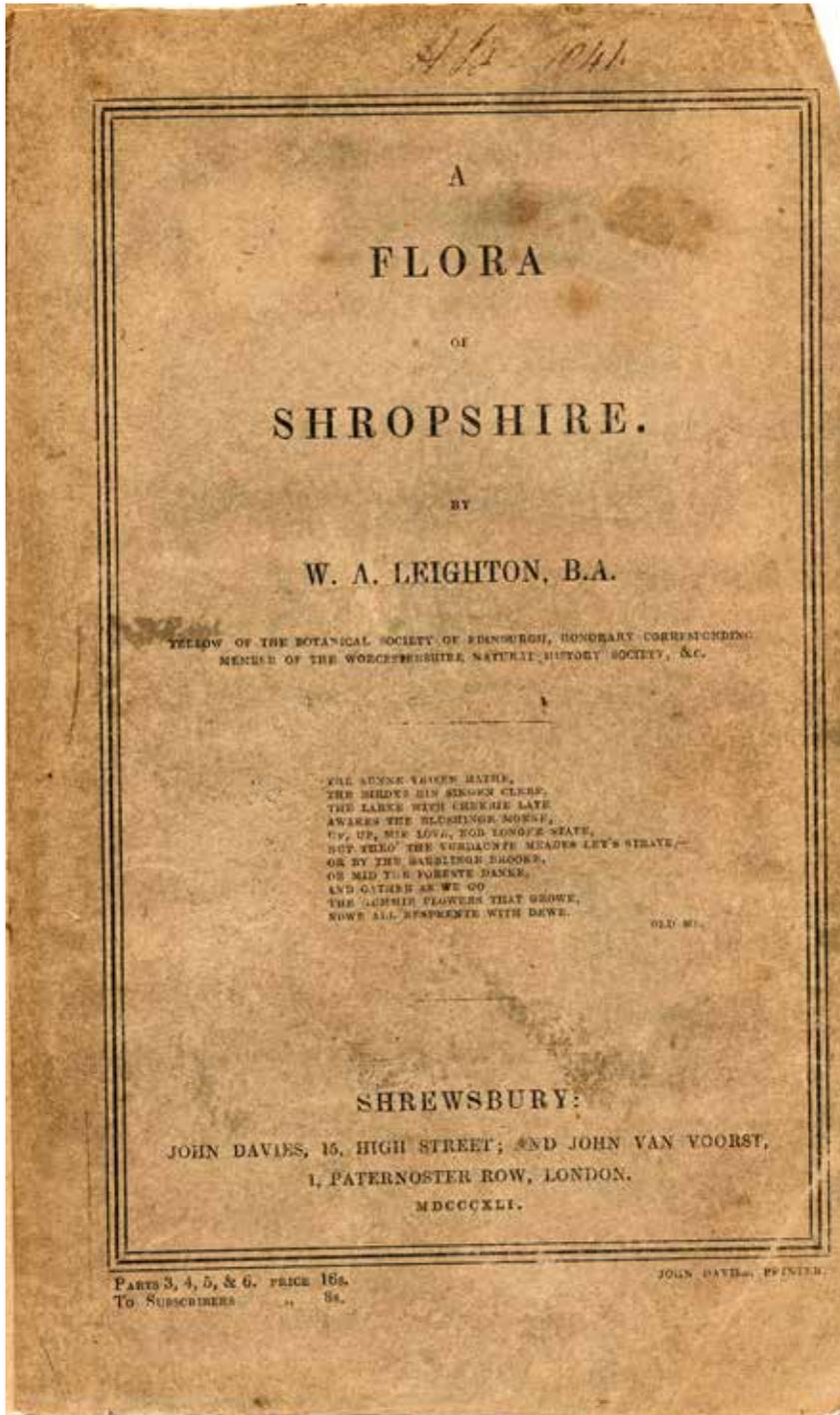


Figure 5. The front wrapper (p. w[1]) of the combined “Parts 3, 4, 5, & 6” of *A Flora of Shropshire*, showing the different prices to subscribers and non-subscribers (actual size 222×142 mm). Photo R. B. Williams, 2018, personal collection.

Such a situation may not be as unusual as it might at first seem. For instance, the title-pages of some of the works included in Van Voorst's occasional lists of "Books published by Mr. Van Voorst" actually bear only the name of another publisher, in which cases Van Voorst presumably acted merely as a retail bookseller as with *The Flora* (see Williams 2012b). Indeed, some works in Van Voorst's lists state explicitly, "Sold by John Van Voorst" under the title-page imprint of the actual publisher. Moreover, despite the misleading joint publishers' imprints on the title-page of *The Flora*, Van Voorst's actual rôle is explicitly stated in Davies's advertisement for the finished book, "Published by JOHN DAVIES... and Sold by JOHN VAN VOORST" (*Shrewsbury Chronicle*, 4 Dec. 1840, no. 3564, p. 2). In all such cases, Van Voorst would not necessarily have known the author personally, as is apparent here.

Presumably in this instance the two publishers had come to some arrangement to remunerate Van Voorst for his marketing *The Flora* in the metropolis, where all the advertising appeared under his name.⁷ Most probably, he received from Davies a commission on sales and expenses for advertising; furthermore, he certainly benefited from having his own advertisements inserted in some copies of the consolidated volume, whether in those for sale in London or in Shrewsbury. Moreover, Davies acted reciprocally as a provincial agent for Van Voorst; the advertisement on the wrapper (p. w[3])⁸ of part 2 of *The Flora* states: "NEW WORKS PUBLISHED BY JOHN VAN VOORST, 1, PATERNOSTER-ROW; And Sold by JOHN DAVIES, SHREWSBURY, and all Booksellers." Curiously, I have never seen Davies's own advertisements either in the parts or in any consolidated volume, perhaps because he had previously published little of relevance to natural history.

How was A Flora of Shropshire financed?

Regarding financing, Allen (2010, p. 273) has speculated that Leighton personally underwrote *The Flora*, claiming that it was published "almost certainly largely at his own expense". Allen's conviction is based upon his notion that Leighton must have been a rich man because his mother was said to be a "co-heiress" (Allen 2003, 2010). In fact Leighton did not finance production of *The Flora*, and neither, apparently, was he especially wealthy at the time of its publication.

Particularly cogent is Leighton's reply⁹ on 2 May 1840 to a letter from the Rev. Charles Cardale Babington (1808–1895), who had apparently suggested a collaboration to write a proposed "Flora of Britain". Leighton wrote,

I know not how you have arranged about the publication of your works whether you have borne the expense and risk of publication yourself or disposed of them to a publisher who does it at his own risk and expense. The latter I have done with my Flora [of Shropshire] which I sold the copyright of to Davies for a copy of Sowerby's English Botany & Supplement & 25 Copies of the work with the privilege of purchasing future copies at trade price.

Clearly, then, having purchased Leighton's copyright, Davies personally undertook the risk of financing *The Flora*. However, it appears that he encountered problems with cash flow after publication of the first two parts, and it became necessary to raise subscriptions to complete the project. This is evidenced by the printed front wrapper (p. w[1]) of the final part, whereon two prices are shown (Fig. 5); the cost to subscribers was 8s., rather than the full 16s. charged to non-subscribers. As shown on the wrappers and in all advertisements that I have seen, parts 1 and 2 were priced at 4s. each, apparently for all purchasers (Figs. 3, 4). The publication of part 3 in particular by subscription is ascertainable only by examination of its wrapper, because there

is no list of subscribers in the consolidated volume. Neither is there a subscribers' list on the wrappers of any of the three parts; nor have I discovered any separate prospectus calling for subscriptions.

The pricing structure therefore indicates that after printing 208 pages of letterpress and seven plates in parts 1 and 2, it became necessary to raise more funds to complete the printing of the remaining 380 pages and a further 13 plates, four of which apparently should have appeared already in part 2 (see Appendix 1). Perhaps the curious numbering of the final portion of the work as "Parts 3, 4, 5, & 6" (see Fig. 5) was a ploy to justify its high price of 16s., which was four times that of either of the separate parts 1 and 2. Certainly, there is no evidence in its continuous text of any division into parts.

The protracted publication of the three physical parts gave Leighton an opportunity to supplement the whole volume with extensive additions and corrections on pp. [503]–531. The failure to adhere to the original publishing schedule is perhaps what caused difficulties with cash-flow and the loss of expected Christmas sales in 1838, at least for Davies. However, this most probably did not affect Van Voorst at all, since he was acting merely as a selling-agent, having made no capital investment in the project; by 1855, or probably even earlier, he had seemingly withdrawn from this arrangement (see later).

Given the apparent funding problems, and possible delays in preparing the etchings (see Appendix 2), one might wonder why Davies did not abandon the project. However, as he saw his widely publicized six-month publication schedule for *The Flora* ultimately extending to twenty-seven months, he most probably persisted doggedly with its publication because, having bought Leighton's copyright outright and committed capital to its production, he would no doubt have been

very reluctant to see his investment wasted. Presumably, the long delay in recouping any financial outlay made it essential in 1840 to price the long-awaited consolidated volume at £1 4s. retail (Low 1864, p. 454), which was the total cost of all three parts to non-subscribers.

Remaindering of A Flora of Shropshire

At some time during the 1840s Van Voorst had ceased listing *The Flora* in the occasional dated lists of "Books published by Mr. Van Voorst" that he often appended to his books; the last inclusion that I discovered was in his December 1845 list. Apparently by 1855, or probably even before, Van Voorst was succeeded as the London selling-agent by another publisher, William Pamplin (1806–1899). (An account of Pamplin's life was provided by Reginald W. Phillips (1899).) Thus, in *The Shrewsbury Guide Advertiser* (Davies 1855), *The Flora* was advertised as available from "Shrewsbury: JOHN DAVIES 15, High Street. London: W. Pamplin, 45, Frith Street, Soho Square". It was described as being "In one handsome volume, 8vo. with nineteen Plates, cloth, 8s.". This price allowed a massive discount of two-thirds for complete copies apparently cased in original publisher's cloth.

It seems that by 1858 Pamplin had acquired at least some, if not all, of the remainder stock¹⁰ of *The Flora* from Davies (Fig. 6), which he advertised in *Gleanings Among the British Ferns* (Paton 1858) in "A list of books recently published by William Pamplin, 45, Frith Street, Soho, London, or otherwise for sale by him at the reduced prices affixed"; the volume still cost 8s. but despite preserving this huge price reduction it was offered in "extra boards".¹¹ A very similar advertisement may also be found inserted in some copies of the double number (parts 17 & 18) of Thomas Moore's *Index Filicum* (Moore 1862). Pamplin's reissue of *The Flora* was therefore available

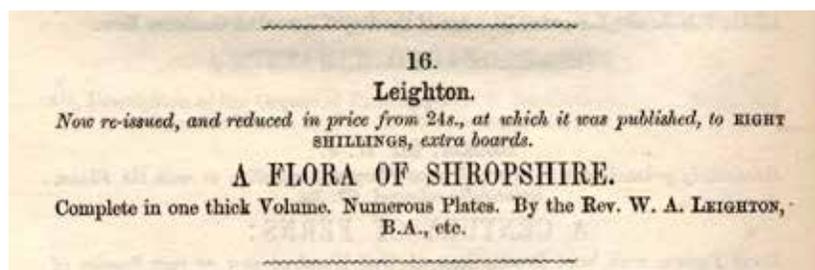


Figure 6. William Pamplin's advertisement for his remainder issue of *A Flora of Shropshire*. Photo M. Rickard, 2019, personal collection.

at least from 1858 to 1862, but perhaps even longer, although I have so far discovered no previous or subsequent advertisements.¹²

In Pamplin's papers at the University of Wales, Bangor, there are unfortunately no letters from Davies or Van Voorst, and although there are 41 letters from Leighton, none of them addresses the sales or remaindering of *The Flora* (Tully 1999). Hence, it is not at present possible to ascertain how Pamplin came by Davies's stock, although, since he re-issued it in a new binding, he presumably would have obtained it in the form of letterpress sheets and loose plates. Copies were still apparently available for 8s. as late as 1872 (Pritzel 1872, p. 181), but by 1891 (and probably much earlier) the book was out of print, used copies being valued at 7s. 6d. (Sonnenschein 1891, p. 528). The book was not included among the remainder stock of Gurney and Jackson (Van Voorst's successors) offered by Grant (1903).

Publication dates

The parts issue

Original parts of *The Flora* are extremely rare; only one complete set of the three parts, and two odd examples of the last part are known, all in private hands. Although the book was issued in three physical parts, the numbering on the wrappers is somewhat puzzling. Whilst the first two parts are numbered conventionally as 1 and 2, the third, though sewn as a single entity

with no perceptible divisions of the letterpress, is as previously mentioned numbered "Parts 3, 4, 5, & 6" (see Fig. 5). Nevertheless, in the contemporary literature and advertisements, this last part is referred to simply as "Part 3", as, for convenience, it is subsequently herein. Precise dating of the parts is not possible from primary evidence on the wrappers, since the first two are undated, and part 3 bears the spurious date of 1841, as does the consolidated volume.

There are considerable differences between the predicted and the actual publication dates of the parts of *The Flora*. On 1 June 1838 John Davies announced "*This day is Published, in 8vo. Price 4s. PART 1 of A FLORA FOR [sic] SHROPSHIRE*" (*Shrewsbury Chronicle*, 1 June 1838, no. 3435, p. 3). The forthcoming part 2 was promised to be available on 1 October 1838, and part 3 on 24 December 1838 to complete the volume; Van Voorst, in London, announced the same publishing schedule on 23 June 1838 (*Literary Gazette*, no. 1118, p. 399). This schedule was still being promulgated in *The Athenaeum* on 8 September 1838 (no. 567, p. 664), so the target for the completed publication was clearly the 1838 Christmas market. However, instead of the projected production period of about six months, the completed volume was not issued until September 1840 (see later).

Nevertheless, based upon external evidence, the actual dates of issue of the parts may be deduced with reasonable precision. Part 1 was published in 1838, on or before 1 June

(*Shrewsbury Chronicle*, 1 June 1838, no. 3435, p. 3). A later notice (Low 1839, p. 15) of availability in June 1838 of part 2 is certainly an error for part 1 because it refers to an advertisement numbered 4208 in *The Publishers' Circular*, the same number as that advertising part 1 on 2 July 1838 (no. 19, p. 293).

Part 2 was published in 1839, on or before 11 May (*The Atlas*, no. 678, p. 16). The accession date of part 2 pencilled in the British Museum legal-deposit copy of *The Flora* (bound up from the parts without the wrappers), now in the British Library (shelf-mark 724.e.11), is 15 May 1839.

Regarding the publication date of part 3, it is stated on p. w[4] of the wrapper of part 2 that “The Third, and concluding Part, is in the press, and will be published as soon as possible”, but in fact more than another year passed before it finally appeared. An untitled, 16-page catalogue of publications issued by Van Voorst, dated March 1840, states “Part III, which will complete the work, is just ready” (p. 6). That ambiguous statement cannot have meant that the part was actually available for sale; it more likely indicated that the printing had been more or less completed. It appears that, although the bulk of the letterpress might have been finished, the preliminaries were not yet printed, because on p. xi of the preface is information dated 28 August 1840; moreover, the preface is signed off “*Shrewsbury, September, 1840*”. The accession date of part 3 in the British Museum legal-deposit copy, now in the British Library (shelf-mark 724.e.11), is 6 October 1840. The actual date of publication cannot have been earlier than that of the consolidated volume, that is, between 1 and 23 September (for which, see below); in fact, it was probably virtually simultaneous.

The consolidated volume

In spite of the hitherto widely accepted spurious date of 1841 on both alternative title-

pages (Figs. 1, 2) of the consolidated volume of *The Flora*, and also on the wrapper of part 3 (Fig. 5), it is beyond doubt that publication of the completed work was in 1840. Thus:

1. *The Flora* is listed in *Hodgson's Annual Catalogue of New Works... Published During 1840* (Hodgson 1841, p. 18).
2. It is also stated to have been published in 1840 in *The English Catalogue of Books* (Low 1864, p. 454).
3. The library of the University of Leeds (UK) holds a copy inscribed “To Allen Edward Everitt with the affectionate regards of his uncle William Allport Leighton Sept. 23. 1840.”¹³
4. The library of the Royal Botanic Garden, Edinburgh (UK), holds a copy inscribed “The Botanical Society of Edinburgh from the Author Sept 23 1840.”
5. The accession date pencilled on part 3 of the bound British Museum legal-deposit copy is 6 October 1840.
6. I possess a copy bearing the inscription “To Sir William Jackson Hooker with the respectful though sincere regards of the Author. Nov. 17. 1840.” The letter, also dated 17 November 1840, that accompanied this copy is in the Library and Archives of the Royal Botanic Gardens, Kew (ref. Directors' Correspondence 16/222).
7. In the November 1840 issue of *Annals and Magazine of Natural History* (Anonymous 1841[1840]) is a review of the whole work, “now completed by the publication of the 3rd part”. It is described as comprising “1 vol. 8vo. 1840”, which suggests that publication of the final part and the whole volume was simultaneous.
8. Leighton's own copy, now in the National Library of Wales, contains press cuttings of book reviews of the “last part” (*Shrewsbury Chronicle* of 2 October 1840); the work “now completed” (*Shropshire Conservative* of 10 October 1840); and the finished book in the *Shrewsbury News* of 7 November 1840.

9. Somewhat belatedly, apparently targeting the Christmas market, the whole work was advertised on 4 December 1840 as “Just published” (*Shrewsbury Chronicle*, no. 3564, p. 2).

Since the preface was signed off “September, 1840”, the publication date must have been between 1 and 23 September, because two of the known presentation copies are inscribed 23 September. If Leighton was sending out multiple copies then, he had perhaps only just received them; hence, printing of the preliminaries must have been completed remarkably quickly at some time during the first three weeks of September. All the foregoing dated presentation copies, announcements, catalogues and reviews are corroborative.

Van Voorst usually issued the consolidated volume(s) of parts-issues more or less simultaneously with the final part (see Williams 2014, 2017a, 2017b, 2018a). Davies was no less efficient, and, since assuming the volumes were cased in Shrewsbury where they were printed, his bindery must have been just as speedy as the London trade-binders. Although Davies's binder's ticket has not yet been found in any trade copy,¹⁴ the boards are distinctively different from the plainer full-cloth style in wave or small diaper grains favoured by Van Voorst in the 1840s. Examples of the publisher's cloth cases are described in Appendix 3.

The spurious dating of the title-page was, for two reasons, not particularly unusual in Victorian publications. First, the range of dates of issue of the parts of books published in fascicles was rarely explicitly indicated on the title-page(s) of the consolidated volume(s), a single year usually being stated, presumably in order to convey the impression of their being up to date (Williams 2014, 2017a, 2017b, 2018a). Second, when a book was completed near the end of a year, particularly around Christmas time, it was not uncommon to

date it for the following year (Jackson 1881, pp. xviii–xix; Sonnenschein 1891, p. [vi]), presumably to avoid its appearing to be a year old, about only one month after publication. Both practices may be observed in many Victorian books, including some published by Van Voorst, who perhaps suggested this strategy to Davies for *The Flora*.

Contemporary and modern appraisals of *A Flora of Shropshire*

The Flora describes 876 species of flowering plants native to Shropshire (Leighton 1841[1838–1840], p. viii). Highly regarded by Leighton's obituarists, it was judged to be “remarkable for the accuracy of its original diagnoses, and of the habitats it records” (W. Phillips 1889, p. 112); it was also “pronounced by the highest authorities at the time to be the ablest country [*sic*] flora that had appeared” (Anonymous 1889a); corroborated by Hamilton et al. (1908, p. 53), *The Flora* “was regarded by the greatest authorities of the time as the best county flora that had appeared”. Indeed, Lockton (2000) has observed that “Its value seems only to increase with time, as the accuracy of the records, taxonomically and geographically, is superb.” Lockton and Whild (2005, p. 6), in their *Rare Plants of Shropshire*, rank Leighton sixth in the “top 20 rare plant recorders” for the English county of Shropshire, and describe him as “a thoroughly reliable and careful botanist, and his notes on difficult genera such as *Fumaria* and *Epipactis* make interesting reading even today”. It was not superseded as the definitive Shropshire flora until 1985 (Sinker et al. 1985).

More recently, however, Allen (2010, p. 293) has been uniquely critical among modern writers of the text and clearly regards the extensive species descriptions as an act of self-indulgence made possible only by Leighton's presumed substantial wealth:

... the lumbering of [*The Flora*] with species descriptions, quite unnecessarily, can therefore only be read as a rich man's defiant extravagance. The laborious drawing-up of those must surely have been partly to blame for that work's "unusual length of time in the writing", for which the author apologised in the preface when it originally appeared in 1841 [*sic*].

However, it is instructive to return to Leighton's own explanation of his circumstances (Leighton 1841[1838–1840], p. xi):

That much apology is needful for the *unusual length of time which has been expended in the printing* the author cannot but be sensible, at the same time he feels himself wholly undeserving of blame inasmuch as *the delay has proceeded from causes over which he could exercise no controul* [*sic*].¹⁵ This inconvenience he would hope has been doubly compensated by the constant opportunities thus afforded to him of incorporating additional information and discoveries, of revising his previous labours, and rendering the details generally more ample and accurate. [*My italics*]

Therefore, Leighton actually apologized not for how long he took to write the work, as claimed by Allen (2010), but for the time taken to print it. The cause of this delay was not explained, but he took pains to make clear that it was not to do with his prolixity or dilatoriness of writing. Possibly, it was in part to do with the need to seek subscriptions to finance completion of the printing, but there is also evidence suggesting that the completion of the plates caused further delay (see later). Furthermore, it is perfectly clear from Leighton's letter of 2 May 1840 to Babington⁹ that he did not finance the work himself, and since the publisher Davies undertook the risk, Leighton's book was, therefore, anything but "a rich man's defiant extravagance", as opined by Allen (2010).

Leighton was careful, moreover, to justify his lengthy descriptions (Leighton 1841[1838–1840], pp. vii–viii):

... the present work was projected, and was at first intended to appear as a *mere Catalogue of Plants with localities and observations*, but the author, yielding to repeated solicitations, subsequently changed his entire plans, and has been induced to present it in *the more extended form of a descriptive Flora*. [*My italics*]

It may readily be seen that this was no late excuse for any anticipated criticism, since he had already communicated precisely the same explanation to Thomas Salwey when he wrote to him in April 1836 (see previously), long before the printing of *The Flora* was begun. However, as he acknowledged, he quite reasonably took advantage of delays in the presswork to expand and refine his original manuscript.

Contemporary reviews indicate that *The Flora* was generally very well received, despite, or perhaps even because of, Leighton's detailed descriptions¹⁶ (Anonymous 1841[1840], p. 217):

Since the publication of the 'English Flora' no work has appeared in which all the species are carefully and originally described; nor does any British book exist in which the descriptions are sufficiently detailed for the present wants of systematic botany; for in this latter respect, the celebrated work of Sir J. E. Smith is (from the date of its publication) necessarily deficient.¹⁷

Furthermore, that reviewer emphasized the value of the descriptions, not only for characterizing species, but also for establishing a potential natural classification, despite the taxonomy's actually being arranged according to the Linnaean system (Anonymous 1841[1840], p. 218):

In the work before us, Mr. Leighton has accurately, and in most cases very fully, described the plants of his county; and from having used several of the continental Floras, in conjunction with that of Smith, he has in numerous cases introduced the description of parts which that excellent author has overlooked: we would particularly mention the seeds, a minute attention to which was not requisite when botanists almost entirely

confined themselves to the elucidation of the Linnæan system alone, but which are now considered of great value in determining the natural affinities of plants, as well as in certain tribes affording excellent specific characters. The book under our notice is arranged according to the Linnæan system, but care appears to have been taken that the generic and specific characters should be such as will serve for any classification.

Another contemporary review (Anonymous 1840) affords an amusing antithetic comparison with the modern criticism by Allen (2010). Thus,

We were struck with the very correct manner in which he (Mr. Leighton) has systematically arranged, the perspicuous accuracy with which he has described, and the discriminating tact with which he has distinguished all and every of our Salopian flowering herbs and trees; the whole interspersed frequently with their medicinal and chemical powers, ancient and modern customs, local anecdotes, scraps of poetry and fanciful illustrations. Works of this kind, though learned, are too often dry and monotonous; but as regards this, we may truly say to the botanist—*indocti discant, et ament meminisse periti* [let the unlearned learn and let the learned delight to remember—Charles-Jean-François Hénault, after Alexander Pope's *Essay on Criticism*]; and we may assure general readers of every description, particularly those of Shropshire, that, though lacking nothing of learning or science, Mr. Leighton has, with much taste and fancy, contrived to make his Flora “*a perpetual flow of nectar'd sweets, where no crude surfeit reigns* [My italics].”

The renowned C. C. Babington, in the first edition of his classic *Manual of British Botany*, wrote (Babington 1843, p. viii): “Leighton's excellent Flora of Shropshire has supplied much valuable information”. Though somewhat brief, Babington's opinion would perhaps have been one of the most influential. Leighton was writing at a time when British botanists were beginning to adopt a natural system of taxonomy to supersede the Linnaean system (for instance, Lindley 1830). Leighton's work was one of the last to embrace the Linnaean

system, though refining it by descriptions of seeds. *The Flora of Tunbridge Wells* (Jenner [1845]) was perhaps the last of all the British floras to employ it (Professor John Edgington, pers. comm., 3 December 2018).

An indication of the great respect for Leighton's work is that his name is memorialized in several eponyms (not necessarily all valid names now): the lichens *Lecidea leightoniana* Larbalestier ex Leighton, *Leightonia* Trevisan and *Leightoniella* Henssen; the fungi *Agaricus leightonii* Berkeley, *Calloria leightonii* Philippi, *Leightoniomyces* Hawksworth and Sutton, *Opegrapha leightonii* Crombie and *Sphaeria leightonii* Berkeley and Broome; and the brambles *Rubus leightoni* Lees ex Leighton and *Rubus leightonianus* Babington.

Taxonomic, nomenclatural and biogeographical aspects of *A Flora of Shropshire*

Favourable aspects of the review previously cited (Anonymous 1841[1840]) were tempered somewhat by the observations of one reviewer, contrary to the general consensus, regarding the length of the descriptions; and though critical of the lack of reasoning for nomenclatural changes, the reviewer accepts that such changes were nevertheless valid:

In conclusion, we must observe that, the specific characters are often far longer than is desirable; that in making alterations in the nomenclature, the author has in some cases not sufficiently pointed out the reasons which have induced him to adopt different names from those employed by Smith and Hooker;¹⁷ we must, however, add, that in most instances we are acquainted with causes fully authorizing the change.

The same reviewer noted that the following eleven species were identified as English plants for the first time: *Atriplex deltoidea* Babington, *Ballotta ruderalis* Fries, *Callitriche platycarpa* Kützing, *Cardamine*

sylvatica Link, *Cerasus austera* Borkhausen, *Dianthus plumarius* Linnaeus, *Myriophyllum alterniflorum* de Candolle, *Quercus intermedia* Boenninghausen ex Reichenbach, *Scrophularia ehrharti* J. C. Stevens, *Senecio erraticus* Bertoloni, and *Spergula vulgaris* Boenninghausen.

Among other important actions, Leighton reduced *Spergula vulgaris* (see Leighton 1841[1840], p. 522) and *Viola imberbis* Ledebour (see Leighton 1841[1840], p. 514) to varietal rank. He also reinstated to specific rank *Cerasus austera* (see Leighton 1841[1840], pp. 524–527), and established *Rubus leightoni* (see Leighton 1841[1840], pp. 233–234). *Helosciadium repens* (Jacquin) W. D. J. Koch was synonymized with *H. nodiflorum* (Linnaeus) W. D. J. Koch (see Leighton 1841[1840], p. 517). A fuller discussion of these actions by Leighton are provided by Sinker et al. (1985, pp. 24–25).

The Flora gave rise to some controversy concerning the taxa that might be regarded as the first British (not just English) records, though it emanated from the opinions of other botanists, rather than Leighton’s own claims. For instance, Luxford (1842[1841]) compiled from *The Flora* a list of 60 species and varieties that he considered to be new to the British flora: “The list may be regarded as a supplement to the ‘Catalogue of British Plants’ printed for the Botanical Society of Edinburgh.” His opinion

was, however, given short shrift by Gibson (1842), who noted “I find (with the exception of the Rubi) very little that is new in this list”, and cited British records 10–30 years older than several of Luxford’s claimed novelties. In dismissing Luxford’s inclusion of *Hypericum maculatum* Crantz, which “I have not been able to find in Mr. Leighton’s work”, Gibson had unfortunately overlooked its synonym *H. delphinense* Villars provided by Luxford, which can, in turn, be found in Leighton’s synonymy for *H. quadrangulum* Linnaeus (see Leighton 1841[1840], p. 372).

Much later, Clarke (1900) regarded far fewer of Leighton’s records as firsts for the British Isles, namely only *Callitriche platycarpa* (see Leighton 1841[1840], p. 446) and *Epipactis media* Fries (see Leighton 1841[1840], p. 435, as *E. viridiflora* Reichenbach). However, since Clarke accepted the publication date of *The Flora* to be 1841, Leighton’s records were actually rather earlier than he realized.

There is only one important classificatory amendment. The first six pages of the original part 1 of *The Flora* (Leighton [1838]) were cancelled in the consolidated volume by eight pages supplied in part 3 (Leighton 1841[1840]). Table 1 compares the composition of the cancellanda in part 1 and their cancellantia in part 3 (see also Appendix 1). The only

Table 1. *A Flora of Shropshire*: Comparisons of headings in the cancellanda in part 1 and the cancellantia in part 3

	Part	Page [1]	Page [2]	Page [3]	Page [4]	Page [5]	Page 6	Page *7	Page 8*
Cancellanda (-A1, 2, 3 = pp. 1-6)	1	Class I. Monandria	Blank	Class II. Diandria	Blank	Flora of Shropshire. Class II. Diandria	[Continuation of Class II]	Not present	Not present
Cancellantia (+ ² A ⁴ = pp. 1-6, *7, 8*)	3	Class I. Monandria	Blank	Flora of Shropshire. Class I. Monandria	Blank	Class II. Diandria	Blank (now p. [6])	Resetting of p. [5] of part 1	Resetting of p. 6 of part 1

amendment is to Class I (Monandria), which is discussed as follows (in quasi-facsimile) on p. [1] of part 1:

CLASS I. | MONANDRIA. | No plants which can be properly arranged in this class | have occurred to observation in Shropshire. | The following anomalous genera and species, sometimes | introduced in this Class, are referred to their proper places, viz: | *Centranthus ruber*, in CL. III. | *Alchemilla arvensis*, in CL. IV. | *Callitriche*, in CL. XXI.

On p. [3] of the part 3 cancellantia, Leighton reversed this opinion and admitted *Hippuris vulgaris* Linnaeus to the Monandria of Shropshire but maintained his original referral of the “anomalous genera and species” to their respective classes. Otherwise, the amendments of the cancellanda are scientifically inconsequential. They include, for instance, the transference of the original nine-line quotation of John Milton on p. [3] (Class II. Diandria) of the cancellanda to p. [1] (Class I. Monandria) of the cancellantia, and the insertion of a 13-line quotation of William Wordsworth on p. [5] (Class II. Diandria) of the cancellantia where the Milton quotation was originally positioned. Pp. [5] and 6 of the cancellanda were reset as pp. *7 and 8*, which was necessitated by the increased number of blank pages in the cancellantia (Tab. 1).

There is apparently an error in numbering of the Linnaean classes in part 2; Class VII, which should logically have been the Heptandria, is omitted. Numbering then continues consecutively from Class VIII to the end of the letterpress, finishing with Class XXIII. This numbering is, of course, repeated in the consolidated volume, but the omission of Heptandria is not explained in the copious “Additions and corrections” (pp. [503]–531). Neither is any explanatory errata-slip present in any copy that I have seen, nor is there any correction or explanation in Leighton’s personal interleaved copy (held by the National Library of Wales). However,

he may have purposely omitted Class VII on biogeographical grounds, because its only British indigene is *Trientalis europaea* Linnaeus, a northern upland species that is not native to Shropshire (see Lockton and Whild 2015). It is a curious fact that he made no explicit mention of omitting Heptandria for that or any other reason, especially since in part 1, whilst he had noted that no Shropshire natives were admitted to the Monandria, he nevertheless included the Class in his system (see above).

Acknowledgments

I thank Martin Rickard for allowing me to examine his complete set of the parts of *The Flora*; for scanning the wrappers; and for drawing my attention to, and providing a copy of, Pamplin’s 1858 advertisement for the remainder issue. I am also grateful to the many librarians and antiquarian booksellers who kindly responded to my questionnaire about copies of *The Flora* in their care or possession. Special thanks are due to Timothy Cutts for his careful examination on my behalf of Leighton’s own copy in the National Library of Wales.

Appendix 1. Bibliographical description of *A Flora of Shropshire*

This description of *The Flora* is based upon examination of forty-eight examples of the consolidated volume traced in academic libraries in the United Kingdom, in the antiquarian book trade and in private hands, as well as a single set of the three original parts and two odd copies of the final part, all in private hands (Tab. 2). Analytical bibliographical methods, including collation formulae, follow mainly the recommendations of Gaskell (1974).

All but one of the volumes and separate parts examined have the same few printing defects (Tab. 2). Hence, with additional comparisons of the letterpress layout, and by examining four random transects in each of two copies of the consolidated volume and two copies of part 3 using McKerrow’s transect method, all examples were concluded to be of the same

typesetting.¹⁸ There is, therefore, only one edition, probably (in view of the apparently slow sales) from a single impression; it is not known how many copies were printed.

Only three physical parts were published, but although journal reviews and Van Voorst's newspaper advertisements repeatedly refer to the last as "part 3", it is confusingly described on its front wrapper as "Parts 3, 4, 5, & 6" (see Fig. 5); the most likely explanation, already suggested, is related to its four-fold price compared to parts 1 and 2. The parts and the consolidated volume are printed in octavo format on demy paper; the gatherings are sewn, through the folds of the gatherings, in fours with only the first leaf of each signed. The uncut leaf dimensions of the parts are 222 × 142 millimetres. Since the shape ratio of 1.56 suggests an octavo format, the leaf dimensions were multiplied up accordingly, following the procedure of Gaskell (1974, p. 86), indicating an estimated sheet size of 568 × 444 millimetres or 22.4 × 17.5 inches, approximately that of a standard Victorian demy sheet of 22½ × 17¼ inches (see Gould 1876).

Part 1

Publication date: 1838, on or before 1 June.

Collation formula: demy octavo in fours: A–N⁴ [\$1 signed], 52 leaves.¹⁹

Pagination: 1–104 pp. at top outer corners of pages. Pages shown below in square brackets are not numbered.

Composition: [1–5] 6–14 [15–16] 17–61 [62–64] 65–79 [80–82] 83–103 [104]. Plates 1–4 (see Appendix 2).

Contents: [1] Class I. Monandria; [2] blank; [3] Class II. Diandria [chapter heading]; [4] blank; [5]–14 Flora of Shropshire. Class II. Diandria [continued]; [15] Class III. Triandria [chapter heading]; [16] blank; 17–61 Class III. Triandria [continued]; [62] blank; [63] Class IV. Tetrandria [chapter heading]; [64]

blank; 65–79 Class IV. Tetrandria [continued]; [80] blank; [81] Class V. Pentandria [chapter heading]; [82] blank; 83–[104] Class V. Pentandria [continued].

Plates: Plate 1 (*Valerianella* spp.) faces p. 27; plate 2 (various genera and species) faces p. 30; plate 3 (various genera and species) faces p. 34; plate 4 (*Potamogeton* spp.) faces p. 75. Plate 3 demonstrably exists in two states, but there may be an as yet undiscovered state that precedes them. If there are indeed three states, the second potentially has many variants (see Appendix 2).

Part 2

Publication date: 1839, on or before 11 May.

Collation formula: demy octavo in fours: O–2C⁴ [\$1 signed], 52 leaves.¹⁹

Pagination: 105–208 pp. at top outer corners of pages. Pages shown below in square brackets are not numbered.

Composition: 105–138 [139–140] 141–158 [159–160] 161–173 [174–176] 177 [178–180] 181–199 [200–202] 203–205 [206–208]. Three unnumbered plates, lettered according to the page number of the facing letterpress (see Appendix 2).

Contents: 105–138 Pentandria [continued]; [139] Class VI. Hexandria [chapter heading]; [140] blank; 141–158 Class VI. Hexandria [continued]; [159] Class VIII [*sic*, see later]. Octandria [chapter heading]; [160] blank; 161–173 Class VIII [*sic*]. Octandria [continued]; [174] blank; [175] Class IX. Enneandria [chapter heading]; [176] blank; 177 Class IX. Enneandria [continued]; [178] blank; [179] Class X. Decandria [chapter heading]; [180] blank; 181–199 Class X. Decandria [continued]; [200] blank; [201] Class XI. Dodecandria [chapter heading]; [202] blank; 203–205 Class XI. Dodecandria [continued]; [206] blank; [207] Class XII. Icosandria [chapter heading]; [208] blank.

Plates: Three plates, facing p. 122 (*Chenopodium polyspermum*); p. 126 (various genera and species); and p. 157 (*Colchicum autumnale*).

Parts 3, 4, 5 and 6 (sewn as one)

Publication date: 1840, between 1 and 23 September.

Collation formula: demy octavo in fours: 2D–2T⁴ 2U⁴(–2U4) 2X–4B⁴ 4C–4D² ²A⁴ a² b⁴ [\$1 signed (–a1)], 193 leaves.¹⁹

Pagination: 209–574, 1–6, *7, 8*, i–xii pp. at top outer corners of pages. Pages shown below in square brackets are not numbered.

Composition: 209–243 [244–246] 247–264 [265–266] 267–303 [304–306] 307–322 [323–324] 325–335 326 [sic, see later] 337–338 [339–340] 341–367 [368–370] 371–376 [377–378] 379–422 [423–424] 425–436 [437–438] 439–478 [479–480] 481–498 [499–500] 501–502 [503] 504–531 [532–533] 534–561 [562–563] 564–573 [574] [1–6] *7 8* [i–vii] viii–xii. Thirteen unnumbered plates, lettered according to the page number of the facing letterpress (see Appendix 2).

Contents: 209–243 Class XII. Icosandria [continued]; [244] blank; [245] Class XIII. Polyandria [chapter heading]; [246] blank; 247–264 Class XIII. Polyandria [continued]; [265] Class XIV. Didynamia [chapter heading]; [266] blank; 267–303 Class XIV. Didynamia [continued]; [304] blank; [305] Class XV. Tetrodynamia [chapter heading]; [306] blank; 307–322 Class XV. Tetrodynamia [continued]; [323] Class XVI. Monadelphia [chapter heading]; [324] blank; 325–338 Class XVI. Monadelphia [continued]; [339] Class XVII. Diadelphia [chapter heading]; [340] blank; 341–367 Class XVII. Diadelphia [continued]; [368] blank; [369] Class XVIII. Polyadelphia [chapter heading]; [370] blank; 371–376 Class XVIII. Polyadelphia [continued]; [377] Class XIX. Syngenesia [chapter heading];

[378] blank; 379–422 Class XIX. Syngenesia [continued]; [423] Class XX. Gynandria [chapter heading]; [424] blank; 425–436 Class XX. Gynandria [continued]; [437] Class XXI. Monœcia [chapter heading]; [438] blank; 439–478 Class XXI. Monœcia [continued]; [479] Class XXII. Diœcia [chapter heading]; [480] blank; 481–498 Class XXII. Diœcia [continued]; [499] Class XXIII. Polygamia [chapter heading]; [500] blank; 501–502 Class XXIII. Polygamia [continued]; [503]–531 Additions and corrections; [532] blank; [533]–561 Index of localities; [562] blank; [563]–573 Index of genera, species, synonyms, &c.; [574] printer's imprint; [1] Class I. Monandria [chapter heading]; [2] blank; [3] Flora of Shropshire. Class I. Monandria [continued]; [4] blank; [5] Class II. Diandria [chapter heading]; [6] blank; *7–8* Class II. Diandria [continued]; [i] half-title; [ii] blank; [iii] title-page; [iv] two-line Latin quotation from Link; [v] dedication to J. S. Henslow; [vi] blank; [vii]–xii preface.

Plates: 13 in total. Seven plates, facing p. 450 (*Carex* spp.); p. 452 (*Carex* spp.); p. 454 (*Carex* spp.); p. 457 (*Carex* spp.); p. 460 (*Carex* spp.); p. 467 (*Carex* spp.); and p. 507 (*Blysmus* spp.). The page indication on the plate facing p. 467 in the original issue of part 3 comprises only the word “Page” (extremely faintly); there are two other states that provide the omitted numerals in consolidated volumes (Appendix 2). Two additional plates (both of *Carex* spp.), inserted between either pp. 460 and 461, or pp. 464 and 465 are printed on a single sheet with a central vertical rule (the horizontal plate-marks run off the page-edges), and are folded along the rule to produce a conjugate pair of leaves with two sets of images facing each other. These conjugate leaves are respectively lettered “Page 464” (at top right of the left-hand leaf; sometimes so faintly as to be discernible only with magnification), and “Page 461” (at top left of the right-hand

leaf). (This pair was apparently regarded by Gibson (1842[1841]) as a single plate, since he mentioned a total of only 19, rather than 20 plates.) Another four plates, which were intended for, but omitted from, part 2 are sewn together after p. 8*, and are lettered to face p. 128 (various genera and species); p. 133 (various genera and species); p. 153 (*Rumex* spp.); and p. 155 (*Rumex* spp.).

Supplementary notes on the parts

1. John Davies's printer's imprint appears at the bottom-right of each front wrapper (Figs. 3–5). In the letterpress his address is given as “XV, HIGH STREET, SHREWSBURY”, appearing only on p. [574] in part 3 (the final page of the consolidated volume).
2. A printed slip is inserted in part 3 after p. [574]: “TO THE BINDER. Cancel pages 1 to 6 of part I, and substitute pages 1 to 8*, which are given herewith”. The cancellantia following immediately after this slip comprise a gathering of four leaves signed A (a duplicate signature, represented by ²A⁴ in the collation formula). The compositions of the cancellanda and the cancellantia are shown in Table 1.
3. In part 3, the final leaf (2U4) of gathering 2U⁴ has been excised, with no break in the pagination, nor in the continuation of the text. No explanation for this is provided, but perhaps Leighton made some major textual change at the proof stage that necessitated deletion of 2U4 and running-on of the text from the verso of 2U3 to the recto of 2X1. As would be expected, the same excision occurs in the consolidated volume.
4. In all of the very limited number (five) of original parts available for study, Davies's publisher's imprint on the front wrapper precedes that of Van Voorst (Figs. 3–5). None of the parts contains inserted

advertisements, although some of Van Voorst's books are listed on the wrapper (p. w[3]) of part 2.

The consolidated volume

The extremely brief account of the contents of *The Flora* by Stafleu and Cowan (1976–1988, 2:828, item 4341) is erroneous with regard both to the pagination and the number of plates; nevertheless, it was the most complete description available hitherto. The consolidated volume is made up from sheets of the parts with the same typesetting. The alternative title-pages, with either Davies or Van Voorst the first-mentioned of the two publishers, presumably indicate whether a copy was intended for sale in Shrewsbury or London, respectively (see Figs. 1, 2). Depending on the state of the title-page, copies of the consolidated volume are herein referred to as the Davies or Van Voorst issue.

Whichever the state of the title-page, no cancellation is involved, since in both cases, the conjugate half-title and title-page leaves form gathering a^2 , so the alternative title-pages were apparently each printed from two formes on quarter-sheets. In both states, gathering a^2 is, using McKerrow's transect method, demonstrably of the same type-setting, only the order of the publishers on the title-page having been amended. This is perhaps rather unexpected because, in the interest of economy, four or eight formes could have been typeset to facilitate multiple impositions of the conjugate pair on half or whole sheets at one time. Had that been done, however, besides the publishers' imprints, slight differences in the typesettings of the two states would presumably have been observable. Alternative title-pages in jointly published books were not a Victorian innovation; they are known from at least as early as the seventeenth century (Padwick 1969, p. 121).

The three known copies of part 3 in wrappers contain the Davies state of the title-page, but perhaps sets of the parts were also issued with the Van Voorst state. If so, whether the order of publishers on the wrappers always tallied with that on the title-page is impossible to tell, given the lack of Van Voorst states of the title-page in part 3 available for comparison. Publication in Shrewsbury and London was apparently more or less simultaneous, judging by the British Museum legal-deposit accession on 6 October 1840 of a copy of the Van Voorst issue, and Leighton's presentation inscriptions of 23 September 1840 and 17 November 1840 in copies of the Davies issue. Leighton, in Shrewsbury, would of course have received his copies sooner than Van Voorst in London.

Bibliographical details of the consolidated volume are as follows:

Publication date: 1840, between 1 and 23 September.

Collation formula: demy octavo in fours: $a^2 b^4 A^4(-A1, 2, 3 + {}^2A^4) B-2T^4 2U^4(-2U4) 2X-4B^4 4C-4D^2$ [\$1 signed (-a1)], 294 leaves.¹⁹

Pagination: xii + 1–6 + *7 + 8* + 7–574 pp. at top outer corners of pages. Pages shown below in square brackets are not numbered.

Composition: [i–vii] viii–xii [1–6] *7 8* 7–14 [15–16] 17–61 [62–64] 65–79 [80–82] 83–103 [104] 105–138 [139–140] 141–158 [159–160] 161–173 [174–176] 177 [178–180] 181–199 [200–202] 203–205 [206–208] 209–243 [244–246] 247–264 [265–266] 267–303 [304–306] 307–322 [323–324] 325–335 326 [sic, see later] 337–338 [339–340] 341–367 [368–370] 371–376 [377–378] 379–422 [423–424] 425–436 [437–438] 439–478 [479–480] 481–498 [499–500] 501–502 [503] 504–531 [532–533] 534–561 [562–563] 564–573 [574]. Twenty plates (of which only 1–4 numbered); the rest lettered according to the page number of the facing letterpress (see Appendix 2)

Contents: [i] half-title; [ii] blank; [iii] title-page; [iv] two-line Latin quotation; [v]

dedication to J. S. Henslow; [vi] blank; [vii]–xii preface; [1] Class I. Monandria [chapter heading]; [2] blank; [3] Flora of Shropshire. Class I. Monandria [continued]; [4] blank; [5] Class II. Diandria [chapter heading]; [6] blank; *7–8* Class II. Diandria [continued]; 7–14 Diandria [continued]; [15] Class III. Triandria [chapter heading]; [16] blank; 17–61 Class III. Triandria [continued]; [62] blank; [63] Class IV. Tetrandria [chapter heading]; [64] blank; 65–79 Class IV. Tetrandria [continued]; [80] blank; [81] Class V. Pentandria [chapter heading]; [82] blank; 83–[104] Class V. Pentandria [continued]; 105–138 Pentandria [continued]; [139] Class VI. Hexandria [chapter heading]; [140] blank; 141–158 Class VI. Hexandria [continued]; [159] Class VIII [sic, see later]. Octandria [chapter heading]; [160] blank; 161–173 Class VIII [sic]. Octandria [continued]; [174] blank; [175] Class IX. Enneandria [chapter heading]; [176] blank; 177 Class IX. Enneandria [continued]; [178] blank; [179] Class X. Decandria [chapter heading]; [180] blank; 181–199 Class X. Decandria [continued]; [200] blank; [201] Class XI. Dodecandria [chapter heading]; [202] blank; 203–205 Class XI. Dodecandria [continued]; [206] blank; [207] Class XII. Icosandria [chapter heading]; [208] blank; 209–243 Class XII. Icosandria [continued]; [244] blank; [245] Class XIII. Polyandria [chapter heading]; [246] blank; 247–264 Class XIII. Polyandria [continued]; [265] Class XIV. Didynamia [chapter heading]; [266] blank; 267–303 Class XIV. Didynamia [continued]; [304] blank; [305] Class XV. Tetrodynamia [chapter heading]; [306] blank; 307–322 Class XV. Tetrodynamia [continued]; [323] Class XVI. Monadelphia [chapter heading]; [324] blank; 325–338 Class XVI. Monadelphia [continued]; [339] Class XVII. Diadelphia [chapter heading]; [340] blank; 341–367 Class XVII. Diadelphia [continued]; [368] blank; [369] Class XVIII. Polyadelphia [chapter

heading]; [370] blank; 371–376 Class XVIII. Polyadelphia [continued]; [377] Class XIX. Syngenesia [chapter heading]; [378] blank; 379–422 Class XIX. Syngenesia [continued]; [423] Class XX. Gynandria [chapter heading]; [424] blank; 425–436 Class XX. Gynandria [continued]; [437] Class XXI. Monœcia [chapter heading]; [438] blank; 439–478 Class XXI. Monœcia [continued]; [479] Class XXII. Diœcia [chapter heading]; [480] blank; 481–498 Class XXII. Diœcia [continued]; [499] Class XXIII. Polygamia [chapter heading]; [500] blank; 501–502 Class XXIII. Polygamia [continued]; [503]–531 Additions and corrections; [532] blank; [533]–561 Index of localities; [562] blank; [563]–573 Index of genera, species, synonyms, &c.; [574] printer's imprint.

Four numbered plates inserted opposite p. 27 (plate 1, *Valerianella* spp.); p. 30 (plate 2, various genera and species); p. 34 (plate 3, various genera and species); p. 75 (plate 4, *Potamogeton* spp.). Sixteen unnumbered plates inserted opposite p. 122 (*Chenopodium polyspermum* Linnaeus); p. 126 (various genera and species); p. 128 (various genera and species); p. 133 (various genera and species); p. 153 (*Rumex* spp.); p. 155 (*Rumex* spp.); p. 157 (*Colchicum autumnale* Linnaeus); p. 450 (*Carex* spp.); p. 452 (*Carex* spp.); p. 454 (*Carex* spp.); p. 457 (*Carex* spp.); p. 460 (*Carex* spp.); p. 461 or 465 (double plate of *Carex* spp. labelled "Page 464" and "Page 461"); p. 467 (*Carex* spp.); p. 507 (*Blysmus* spp.).

Plate 3 and the plate facing p. 467 exist in several states (Appendix 2).

States of the title-page

It has already been established that there is only one edition of *The Flora*, printed from one impression of the original type-setting. However, there are two states of the title-page, on which the names of the two publishers

are printed in alternative orders, referred to herein as the Davies and the Van Voorst states (see Figs. 1, 2). In the three examples available of part 3, which contains the preliminaries, the title-page is of the Davies state, whilst of the 48 consolidated volumes examined, 27 include the Davies state, and 21 include the Van Voorst state (Tab. 2). The proportions of the Davies states (30) and the Van Voorst states (21) of the title-page are not statistically significantly different from an equal distribution (comparison by a two-tailed χ^2 test with Yates's correction; $P = 0.677$).

Typographical notes on the letterpress

The following points were noted in copies both of the original issue of part 3 and of the consolidated volume (Tab. 2):

1. Page 262. The kern of the "6" in the page numeral is missing in all but one of 51 examples seen (a consolidated volume of the Davies issue, cased in style **d** of Appendix 3). Either the damaged sort was in the original typesetting and was replaced very late during the print run, or it was originally perfect and became damaged very early during printing.
2. Page 336 is misnumbered "326" in all 51 examples seen; the error was apparently not detected by the printers, since it is not noted among the printer's corrections.

Remarkably, considering the protracted period of printing, apparently only one typographical error was detected in proof (see line 9 of p. 61; listed in "Additions and corrections" on pp. [503]–531). All the other corrections noted are factual or textual. A reviewer (Anonymous 1840) accordingly opined "We must again remark that the typography, and general getting up of this publication, afford a remarkable evidence of the advanced stage of the art of printing in the provinces, and is highly creditable to the press of Shrewsbury".

Table 2. *A Flora of Shropshire*: Bibliographical points in three copies of part 3 and in 48 copies of the consolidated volume

Issue ¹	Casing ²	Advertisements	Library	Notes ³
JD	a	None	National Art Library, Victoria and Albert Museum	A.88.25; page numeral 262 damaged; plate label "Page 467 "
JD	a	None	Private Library	Page numeral 262 not damaged; plate label "Page 467 "
JD	a	None	Attingham Park, National Trust Libraries	C.5.13; page numeral 262 damaged; plate label "Page 467 "
JD	a	None	Bangor University Library	QK306.L53 1841; page numeral 262 damaged; plate label "Page 467 "
JD	a	None	Antiquarian bookdealer	Page numeral 262 damaged; plate label "Page 467"
JD	a	None	Manchester University Herbarium	Page numeral 262 damaged; plate label "Page 467"
JD	b	JVV, March 1840	Antiquarian bookdealer	Page numeral 262 damaged; plate label "Page 467 "
JD	b	JVV, March 1840	Antiquarian bookdealer	Page numeral 262 damaged; plate label "Page 467 "
JD	b	JVV, March 1840	Private Library	Page numeral 262 damaged; plate label "Page 467 "; inscribed 17 November 1840
JD	b	JVV, March 1840	Antiquarian bookdealer	Page numeral 262 damaged; plate label "Page 467 "
JD	b	JVV, March 1840	National Museum Wales	581(42.45)/L53; page numeral 262 damaged; plate label "Page 467 "
JD	c	None	Salisbury Collection, University of Southampton Library	Rare Books QK 306.S4 LEI; page numeral 262 damaged; plate label "Page 467 "
JD	w	None	Private Library	Part 3; page numeral 262 damaged; plate label "Page"
JD	w	None	Private Library	Part 3; page numeral 262 damaged; plate label "Page"
JD	w	None	Private Library	Part 3; page numeral 262 damaged; plate label "Page"
JD	x	None	Science Library, University of Cardiff	581.94245L; page numeral 262 damaged; plate label "Page"
JD	x	None	Salisbury Library, University of Cardiff	WG36.5.960; page numeral 262 damaged; plate label "Page 467"
JD	x	None	Antiquarian bookdealer	Page numeral 262 damaged; further details unavailable
JD	x	None	Antiquarian bookdealer	Page numeral 262 damaged; further details unavailable
JD	x	None	Special Collections, University of Leeds Library	Botany G-92.7/S; page numeral 262 damaged; plate label "Page"; inscribed 23 September 1840

Issue ¹	Casing ²	Advertisements	Library	Notes ³
JD	x	None	Special Collections, University of Bristol Library	Store553400; page numeral 262 damaged; plate label "Page 467"
JD	x	None	Herbarium Library, University of Cambridge	Simpson Collection 1877; page numeral 262 damaged; plate label "Page 467"
JD	x	None	Herbarium Library, University of Cambridge	British Floras SHR; page numeral 262 damaged; plate label "Page"
JD	x	None	Private Library	Page numeral 262 damaged; plate label "Page"
JD	x	None	Antiquarian bookdealer	Page numeral 262 damaged; plate label "Page 467"
JD	x	None	Antiquarian bookdealer	Page numeral 262 damaged; plate label "Page 467"
JD	x	None	Lindley Library, Royal Horticultural Society	581.9 (4B) Shr; page numeral 262 damaged; plate label "Page 467"
JD	x	None	Royal Botanic Garden, Edinburgh	FI:40; page numeral 262 damaged; plate label "Page"; inscribed 23 September 1840
JD	x	None	National Library of Wales	C4549; page numeral 262 damaged; plate label "Page 467"
JD	x	JVV, March 1840	National Library of Wales	CM15465-6; page numeral 262 damaged; plate label "Page 467"; Leighton's own copy, 2 vols. interleaved by Davies
JVV	b	JVV, March 1840	Natural History Museum, London	British Herbarium SB 581.9(410:40) LEI; page numeral 262 damaged; plate label "Page"
JVV	b	JVV, March 1840	Natural History Museum, London	Rothschild collection 581.9(410:40) LEI; page numeral 262 damaged; plate label "Page 467"
JVV	b	JVV, March 1840	Special Collections, University College London	HNHS LEI 1180726; page numeral 262 damaged; plate label "Page 467"
JVV	b	JVV, March 1840	Sir Duncan Rice Library, University of Aberdeen	SB 5819(4245) Lei; page numeral 262 damaged; plate label "Page 467"
JVV	c	JVV, March 1840	Private Library	Page numeral 262 damaged; plate label "Page 467"
JVV	c	None	Special Collections, University College London	HNHS LEI 1180727; page numeral 262 damaged; plate label "Page 467"
JVV	c	None	Antiquarian bookdealer	Page numeral 262 damaged; plate label "Page"
JVV	d	JVV, July 1839	Antiquarian bookdealer	Further details unavailable
JVV	x	None	National Library of Scotland	M.46/2.d.α; page numeral 262 damaged; plate label "Page"

Issue ¹	Casing ²	Advertisements	Library	Notes ³
JVV	x	None	Cambridge University Library	MD.37.44; page numeral 262 damaged; plate label "Page"
JVV	x	None	Linnean Society of London	C25434; page numeral 262 damaged; plate label "Page"
JVV	x	None	University of Glasgow Library	Store HA02738; page numeral 262 damaged; plate label "Page 467"
JVV	x	None	Radcliffe Science Library, University of Oxford	19136.e.3; page numeral 262 damaged; plate label "Page"
JVV	x	None	University of Nottingham Library	QK306.1.S4 LEI; page numeral 262 damaged; plate label "Page 467"
JVV	x	None	Royal Botanic Gardens, Kew	47959-1001; page numeral 262 damaged; plate label "Page"
JVV	x	None	British Library	724.e.11; page numeral 262 damaged; plate label "Page"; bound up from the parts
JVV	x	None	Antiquarian bookdealer	Page numeral 262 damaged; plate label "Page"
JVV	x	None	Antiquarian bookdealer	Page numeral 262 damaged; plate label "Page 467"
JVV	x	None	Natural History Museum, London	British herbarium 581.9(410:40) LEI; page numeral 262 damaged; plate label "Page"
JVV	x	None	Hugh Owen Library, University of Aberystwyth	Store QK306.L5; page numeral 262 damaged; plate label "Page 467"
JVV	x	None	Private Library	Page numeral 262 damaged; plate label "Page 467"

¹JD = Davies issue; JVV = Van Voorst issue.

²Publisher's cloth-grains, etc.: **a** = quarter-bound green horizontal rib (**Krupp Rib3**); **b** = mid-brown vertical rib (**Krupp Rib3**); **c** = extremely dark green, almost black, horizontal rib (**Krupp Rib3**); **d** = greyish-green pebble (**Krupp San5**). Bindings other than publisher's cloth: **w** = parts in paper wrappers; **x** = custom-bound volumes in binder's cloth or leather.

³Salient bibliographical points (three copies with bookdealers have incomplete information): (a) All examples examined have p. 336 misprinted as 326 (therefore not noted in the table); (b) All examples examined but one (as noted) have a damaged "6" in the page numeral 262; (c) The labelling for the plate facing p. 467 may appear as "Page" (extremely faintly with no numerals), "Page 467" (characters of about equal weight), or "Page 467" (numerals bolder than letters).

Appendix 2. The plates of *A Flora of Shropshire*

There are 20 plates, mainly anatomical features of fruits and seeds in *The Flora*; only the first four are numbered. Unusually for such works, Leighton did not consider providing any labelling on the plates beyond the species

names; nor are there any explanatory leaves of text. Positioning of the plates in the undisturbed letterpress of the parts and of the consolidated volume are noted in Appendix 1, but in some custom-bound volumes (owners'

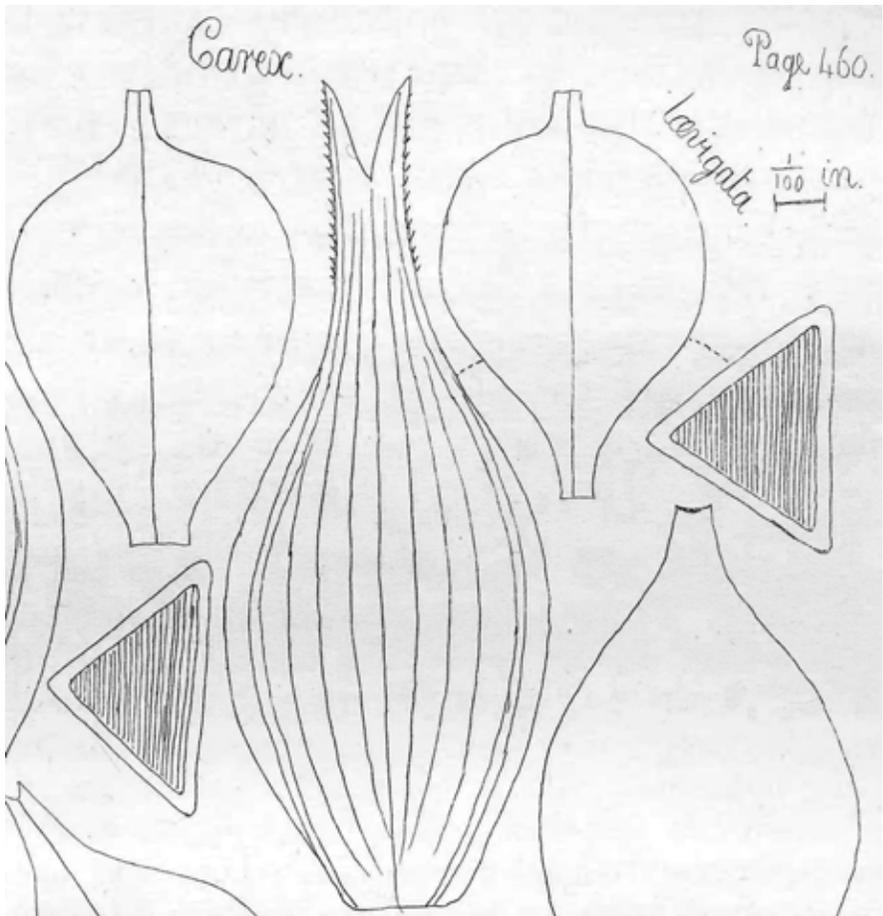
or library bindings), they may be sewn together in a block after the text. Bridson (1976) long ago pointed out the frequent deficiencies in descriptions of plates in bibliographical work and emphasized the importance of full accounts of their production methods. The value of that is demonstrated in the present case of *The Flora*, in which various problems with the preparation and production of the plates apparently had a crucial impact on its publishing history.

The number of plates

Pritzell (1851, p. 153), in his *Thesaurus Literaturae Botanicae*, does not mention the

number or kind of plates, but in his second edition he recorded 20 plates (Pritzell 1872, p. 181). *The Flora* is not included at all in *Die Botanische Buchillustration* (Nissen 1951–1952). Stafleu and Cowan (1976–1988, 2:828, item 4341) mistakenly call for 21 plates with 5 (instead of 4) numbered; they make no comment on the printing process. Gibson (1842 [1841]) noted only 19 plates, apparently counting the conjugate pair of plates intended for insertion opposite pages 461 and 464 as one, probably because binders hardly ever separated and inserted them in the appropriate places. It should be noted, however, that Davies (1840) himself advertised the work with 19 plates. Woodward (1903–1940) correctly recorded 20 plates.

Figure 7. Part of unnumbered print of *Carex* spp. facing p. 460 of *A Flora of Shropshire*, showing poorly joined needle-strokes in long curves in the large central figure and in those to upper right and lower left of it (magnified; actual area shown is 58×56 mm). Photo R. B. Williams, 2018, personal collection.



Printing process for the plates

Although the identities of artist or printer do not appear on the plates, a contemporary review indicates that Leighton himself was the artist (Anonymous 1841[1840]). This fact was corroborated after his death: “The etchings illustrating the morphology of some of the more difficult genera were by his own hand, and, although somewhat rude, are valuable for their fidelity” (W. Phillips 1889, p. 112); and “He published a flora of Shropshire in 1841, illustrated by etchings from his own hand” (Anonymous 1889b). Since the terms “engraving” and “etching” were often employed rather loosely during the

19th century, and sometimes both techniques were used on the same plate, it is important to confirm the process used here. Hence, a detailed physical examination was carried out.

Although lithography would have been easier and cheaper, the prominent, straight-edged plate-marks indicate an intaglio process. It seems fairly likely though, that to save expense the printing-plates may have been of steel, rather than of copper, although it is impossible to tell from the impressions. Gascoigne (2004) distinguishes between the tapered, pointed terminations of lines produced by direct application of the burin in engravings, and the rounded ends of lines in etchings resulting from drawing with a needle through the wax coating before acid-treatment. Furthermore, on etched plates long, curved lines are often not drawn by a single continuous stroke, which is revealed by imperfect joins or tiny gaps; and thicker lines are produced by repeated parallel strokes of the needle, contrasting with the use of single burins of various widths to achieve the same effect in engravings.

Leighton's plates are clearly characteristic of etchings, with imperfect renderings of single continuous lines (Fig. 7) and multiple strokes in thicker lines (Fig. 8). Several prints have patchy, faint impressions in places or a uniform grey faintness, apparently due to etching that is either inconsistent in depth or too shallow overall. Hence, Leighton's and his obituarists' use of the term “etchings” (Leighton 1841[1840], p. x) is confirmed as technically correct, since the observable physical characteristics of the prints clearly distinguish them from engravings.

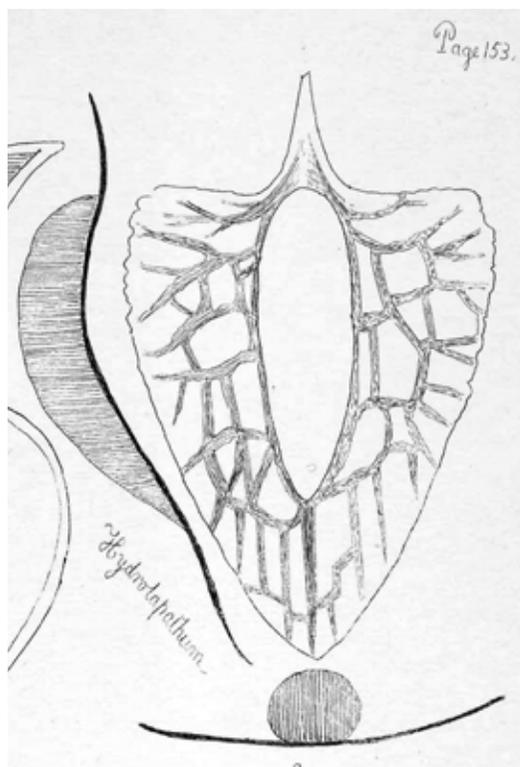


Figure 8. Part of unnumbered print of *Rumex* spp. facing p. 153 of *A Flora of Shropshire*, showing dense thick lines and reticulated veins built up by repeated needle-strokes (magnified; actual area shown is 66 × 48 mm). Photo R. B. Williams, 2018, personal collection.

Quality of Leighton's illustrations

Considering that this was Leighton's first attempt at a flora, it is perhaps surprising that he and Davies did not employ a professional

to etch the original drawings for the plates. Regrettably, Leighton's unskilled line drawings cannot be favourably compared with the work of experienced book illustrators of that era. Apparently realizing this, and anticipating some adverse comment about his artistic competence, he emphasized that "The etchings are not inserted as *embellishments*; their attempted accuracy will, it is hoped, render them not altogether useless" (Leighton 1841[1840], p. x). At least one reviewer (Anonymous 1841[1840], p. 218) concurred:

In some of the more difficult genera outline sketches are given of those parts from which the characters have been derived, and these, although deficient in artistical beauty, are deserving of the highest praise for clearness and accuracy of detail...

However, another anonymous reviewer (in a press cutting from an unidentified newspaper found in Leighton's own copy of *The Flora*) was less impressed: "It is to be wished that the etchings of plants, of which there are a great many, had been well executed. Some of them are mere scratchings, and scarcely any are more than barely tolerable".

Such criticisms of Leighton's illustrative skills are entirely justified. His drawing technique is generally very poor and inconsistent; his lettering is extremely unsteady, especially attempts at rendering ligatures. However, one might wonder if he received some expert help with drawing the earliest plates (those numbered 1–4), which appear to be rather more sophisticated than later ones. Curiously, the illustration of *Colchicum autumnale* opposite p. 157 is so much more accomplished than most of the other images (for example, cf. Figs. 9, 10) that one might suspect it to be the work of another hand, or perhaps a copy of another's illustration. Certainly the *Colchicum* plate is remarkably superior in its artistic composition and comprehensiveness than any plates that are definitely by Leighton. However, I have

been unable to identify any likely source of the illustration among contemporary British floras. The works employed as textbooks by Leighton in preparing *The Flora* (the second edition of *The English Flora* (J. E. Smith 1828–1830) and the third edition of *The British Flora* (Hooker 1835)) have no illustrations; and no similar plate of *Colchicum* is to be found in the other most likely source, the 36 volumes of *English Botany* (Smith and Sowerby 1790–1814).

Apparently, Leighton's artistic skill had not improved after another twelve years, when he wrote *The British Species of Angiocarpous Lichens* for the Ray Society (Leighton 1851), this time illustrated by lithographs. Hence, one reviewer wrote, "We are sorry, however, to be unable to speak of the execution of the plates with unqualified praise. The lithography is very coarse, and in some cases the letters attached to the figures are almost illegible... the colours also are frequently *smear*ed on the plates" (Anonymous 1852). The passing of a century did nothing to soften such criticism; in his comprehensive account of the publications of the Ray Society, Curle (1954, p. 10) opined "The only bad failure in draughtsmanship and colouring is to be found in the plates, made by himself, of Leighton's work on Angiocarpous Lichens, which have a coarseness and crudity alien to the usual level of the Society's productions." Mitchell (2009, p. 12), in an appraisal of early lichen illustrations, made only the cursory comment, "Leighton (1851) provided numerous ascomatal sections of British and Irish peritheciate taxa on 30 poorly lithographed plates".

Printing of the plates

Despite the lack of any printer's imprint on the prints of *The Flora*, it seems fairly probable that the letterpress printer, John Davies, also printed the plates. It has already been suggested that the delays in issuing the

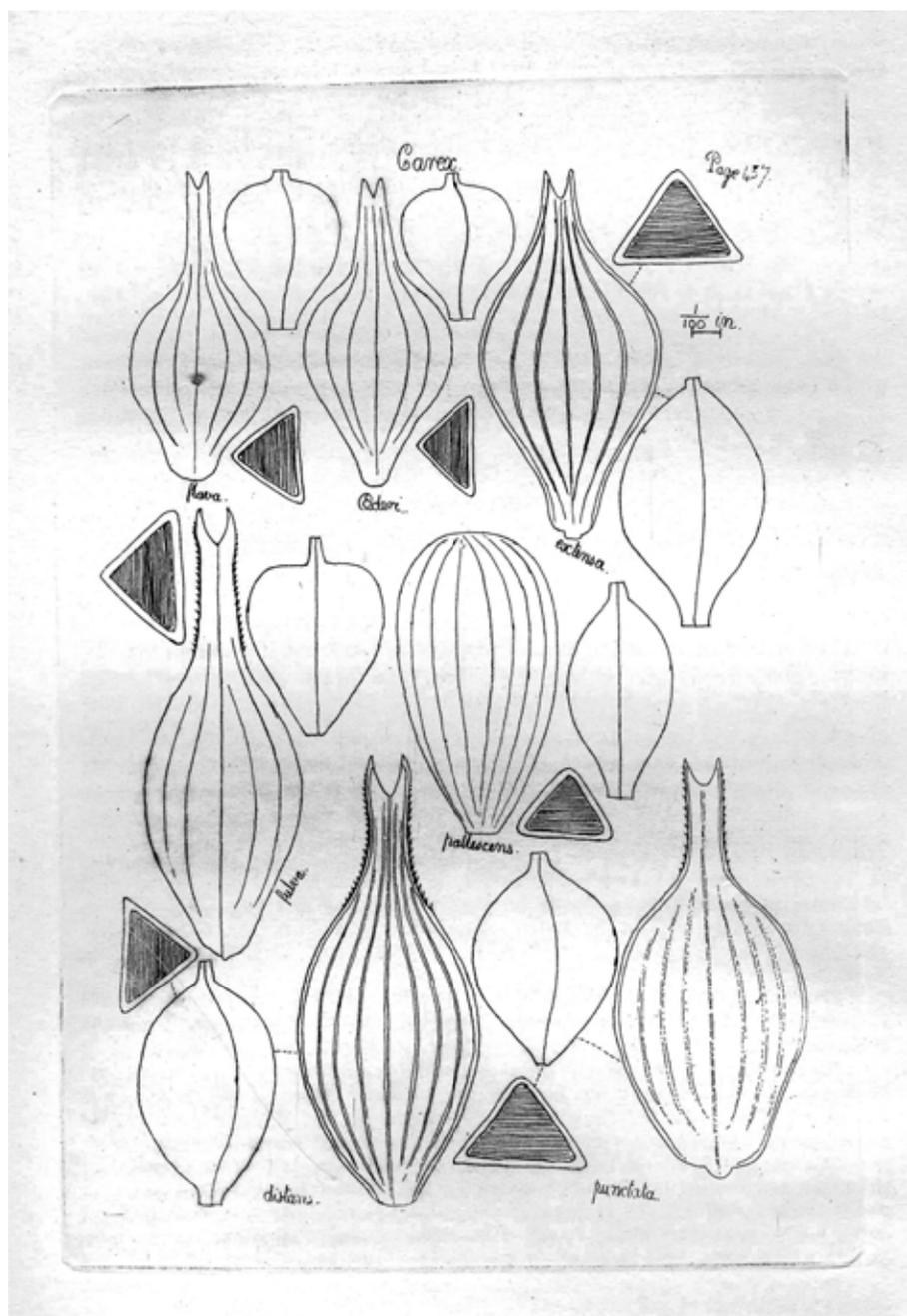


Figure 9. Unnumbered print of *Carex* spp. facing p. 457 of *A Flora of Shropshire*: a typical plate of this work (actual size 222 × 142 mm). Photo R. B. Williams, 2018, personal collection.

parts may have been due partly to problems with completion of the plates. The statement, on p. w[4] of the wrapper of part 2, that “The Third, and concluding Part, is in the press, and will be published as soon as possible” is telling. Although the letterpress was presumably then more or less completed, part 3 actually appeared about sixteen months after part 2. Part of the reason (along with the obvious funding problem encountered after publication of part 2, already discussed) may have been delays with preparing or printing the plates. It appears either that Leighton was uncertain for a long time about what plates he wanted to include, or that he was struggling to improve his etching technique (perhaps both are true). Certainly, he had been working on the illustrations for at least two years before the publication of part 1, as described in a letter²⁰ of 10 June 1836 to Asa Gray (1810–1888): “I am preparing drawings of living specimens . . . They are intended for a work which I have in preparation on the Flora of Shropshire”. The drawings in *The Flora* are similar to the style and quality of the examples that Leighton drew in that letter.

Whatever the reason for delay, the included plates can only have been finalized after typesetting the letterpress where they were to be inserted, since it would have been impossible to know the correct page numbers for labelling the plates before then. Four of the seven plates pertaining to part 2 were issued in part 3, possibly a late decision on which species to illustrate in part 2. Furthermore, the species descriptions include no references to plates (even the numbered four), which seems to confirm that Leighton had not decided at the outset which taxa to depict. This conclusion is further supported by the fact that there are no explanatory notes associated with the plates, which again suggests that completion of the letterpress printing had preceded that of the plates. It would appear, perhaps, that Davies

was unwilling to delay issuing the work any longer, and so the plates appeared with no clues for the tyro.

The page numbers of several plates are so much more faintly etched than the images that they are all but illegible and, moreover, they are not all by the same hand, all of which strongly suggests that numeration had been added after etching the images. This probably rushed finalizing of the positioning of the plates in the text has given rise to different states of two plates.²¹

Different states of plates

All twenty plates bear page numbers to indicate where they were to be inserted in the letterpress, but only the first four, appearing in part 1, additionally bear plate numbers. On the last sixteen plates, the indication of the letterpress page is crudely etched either in serif or sanserif script, apparently by various hands. However, of the first four plates, the plate and page numbers of plates 1–3 are in a much more expert serif rather in the style of a letterpress font, whilst that of plate 4 is crudely etched in sanserif, like that of the unnumbered plates, but apparently not by Leighton's hand. All examples of the lettering of plates 1, 2 and 4 that I have examined are in precisely the same positions within the plate-marks, indicating that they were an integral part of the original etchings when they were printed.

However, the numbering of plate 3 in several examples examined (for instance, Figs. 11A, B, C) differs in appearance from plates 1 and 2, which are in an italic style. Plate 3 may be printed in either of two ways. One variant, with the smaller, markedly sloped, roman lettering (Fig. 11A) has a neat, uniformly horizontal imposition and is consistent in position on those copies examined, suggesting that it was etched on the plate before printing. However, examples of

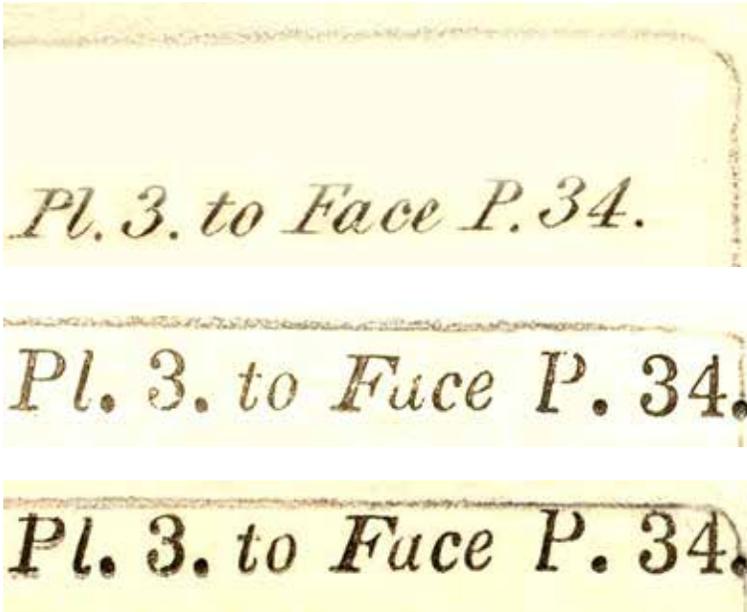


Figure 11. States of lettering identifying plate 3 of *A Flora of Shropshire* (magnified; see actual dimensions of lettering). **A.** Lettering (ca. 19×1.5 mm) not touching the plate-mark. **B.** Lettering (ca. 23×1.9 mm) touching right-hand side of the plate-mark. **C.** Shaky lettering (ca. 23×1.9 mm) touching upper and right-hand side of the plate-mark. Photos R. B. Williams, 2018, personal collection.

a second variant of this plate, with larger, less sloped, roman lettering, appear to have been printed in a letterpress font, recognizable by certain consistent defects in the impressions of the characters on different copies. Most significantly, however, their imprints occupy inconsistent positions within the plate-marks of different copies, occasionally even touching their boundaries (see Figs. 11B, C).

Such characteristics strongly suggest that this lettering was stamped manually on some individual plates after printing, rather than being etched as an integral part of the plate. The skewed, overlapping double imprint shown in Figure 11C indicates unsteady handling of the stamp. Hand-stamped correcting of letterpress was a recognized procedure in the hand-press period 1500–1800 (Gaskell 1974, p. 135), but I have not been able to find any description of its use on plates, nor for any purpose at all, in

the Victorian period, so this particular kind of application may be previously unrecorded.²²

It is impossible to be absolutely certain of the explanation for these two observed states of plate 3, but a plausible hypothesis might be that the plate number was accidentally omitted from the original etched plate giving rise to a first state, which was noticed only after printing of an initial batch. Perhaps perfect copies being needed urgently by the binders, some of these initial incomplete prints might have been hand-stamped immediately, while the original metal plate was being amended, since it presumably would have taken some time to etch the missing characters. Subsequent impressions from this amended plate would then have included the correct integral etched plate number. It is cautiously suggested, therefore, that stamped examples such as Figures 11B and 11C constitute variants of

a second state, and etched ones like Figure 11A constitute a third. However, I have not encountered any of the putative first state, and it seems quite likely that none were ever used. The manual stamps of the provisional second state would have produced a potentially unlimited number of variants, depending on their exact positions.

The second instance of a variable plate involves the one opposite p. 467 in part 3, which should have been etched “Page 467” in the same sanserif style and form of wording as on the other unnumbered plates. However, that lettering exists in three states, possibly arising in the following order on the assumption that the numerals for the page number were at first accidentally omitted. Thus: (1) In the copies examined of part 3 in wrappers, only the word “Page” is extremely faintly visible on this first state of the print, a state also occasionally observed in copies of the consolidated volume (Fig. 12A); (2) In some other copies of the complete volume the same print bears the lettering “Page 467” with the apparently etched impressions of “Page” and “467” of about equal weight (Fig. 12B); (3) In yet other copies of the complete volume, “Page 467” may occur with the numerals “467” noticeably bolder than “Page” (Fig. 12C). Apparently, the second and third states were produced by adding numerals to the original etching of the word “Page”, the lettering style and position of which is identical in all three states. Comparisons of defects in the images of the plants on different copies of the same plate confirm that the addition of numerals was made on the originally etched plate.

However, the numerals added to the second and third states have neat serifs and are different from Leighton's crude sanserif style. If the numerals were indeed added to the word “Page” after their original omission, it is puzzling why there should be two states of the numerals, rather than just one. Whilst

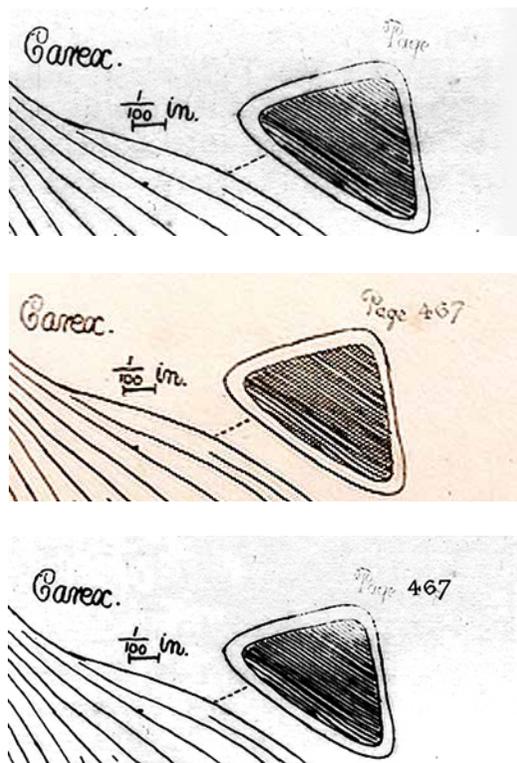


Figure 12. Three states of lettering identifying plate facing page 467 of *A Flora of Shropshire* (magnified; actual areas shown are ca.40 × 18 mm). **A.** Lettered “Page” only, extremely faintly. **B.** Lettered “Page 467”, with almost uniform impression. **C.** Lettered “Page 467”, with bolder numerals than letters. Photos R. B. Williams, 2018, personal collection.

the numerals on the second state appear to have been etched, those on the third state are neater and slightly differently positioned. It is possible that they have been engraved with a burin; if so, the numerals etched on the metal plate in its second state must have been erased before those on the third state were engraved. The third state, with “467” in bold numerals, would presumably, therefore, have constituted the final amendment, though I can offer no explanation of why the page numerals should have been re-marked.

Associations between states of plates and bindings

The occurrence of the first state of the plate opposite page 467 (Fig. 12A) in a custom-bound volume might indicate that it was bound up from original parts, as the British Library legal-deposit copy certainly was, though some custom-bindings might be replacements of worn-out publisher's cloth. The original sewing of the parts penetrates the folds of the gatherings, rather than being stab-sewn through the sides as was often the case with works issued in fascicles; hence, that potential clue to possible resewing is unavailable. Since prints may well have been distributed randomly during sewing, the presence of a first state of a print is not by itself conclusive evidence of an early issue of a consolidated volume.

Nevertheless, the associations between the states of the "page 467" plate (issued in part 3) and the case styles of *The Flora* are particularly interesting and might suggest an explanation for the different states to be found in complete volumes. Table 3a is a comprehensive contingency table of the possible associations (omitting the three copies for which details could not be obtained). The first state ("Page") is consistently found in all three known copies of the original part 3, and in consolidated volumes it occurs more often in those in a custom-binding than in those in publisher's cloth. On the other hand, the (presumably) third state ("Page 467") is more frequent in volumes in publisher's cloth. This might be explained if: (a) most custom-bound volumes were composed of original parts that subscribers had had bound privately (although some may have been issued originally in publisher's cloth), and (b) most corrected prints were issued in complete volumes sold in publisher's cloth. Unfortunately with the data available these are untestable hypotheses because the proportion of cells in Table 3a with

an expected frequency of <5 is too high at 56%; hence, the result of a χ^2 test for statistically significant associations would be invalid.

To obviate this problem, in Table 3b the data for parts in wrappers and volumes in a custom-binding have been pooled to avoid values of zero occurring in the contingency table. Since now the proportion of cells in the table with an expected frequency of <5 has been reduced to 33%, the result of a χ^2 test for associations is acceptable with some degree of caution. High statistically significant differences are indicated ($\chi^2 = 14.3$; 2 d.f.; $P < 0.001$). The null hypothesis that the states of the print are distributed in the same proportions in different casings must therefore be rejected. It therefore may be suggested that the original state ("Page" only) has a higher frequency of occurrence in parts in wrappers and volumes in a custom-binding, whilst the (presumably) third state ("Page 467") occurs more frequently in complete volumes in publisher's cloth. This confirms the initial subjective assessment, but frequencies of the intermediate second state are still too low to permit interpretation with complete confidence.

Finally, in Table 3c the same data are compressed even further to demonstrate the differences between distributions of the first, and the combined second plus third states of prints in publisher's and custom-bindings. Fisher's Exact test (two-tailed) confirms that the preponderance of the first state in parts and custom-bindings and the somewhat lesser excess of the combined second and third states in publisher's cloth are statistically significantly different ($P < 0.002$).

From the foregoing process of progressive pooling of data it seems possible that a high proportion of volumes in custom-bindings might be composed of original parts. However, the sewing holes of individual copies and possible traces of removed wrappers in the

Table 3a. *A Flora of Shropshire*: Contingency table of states of plate facing page 467 associated with wrappers of part 3 and casings of consolidated volumes (percentages of row totals in square brackets; χ^2 expected cell frequencies in parentheses)

State of plate facing p. 467	Part 3 in wrappers	Volumes in publisher's cloth	Volumes in custom-binding	Totals
1: "Page"	3 [17%] (1.13)	2 [11%] (7.13)	13 [72%] (9.75)	18
2: "Page 467"	0 [0%] (0.50)	2 [25%] (3.17)	6 [75%] (4.33)	8
3: "Page 467"	0 [0%] (1.38)	15 [68%] (8.71)	7 [32%] (11.92)	22
Totals	3	19	26	48

Table 3b. *A Flora of Shropshire*: Compressed contingency table (from Tab. 3a) of states of plate facing page 467 and casings, combining part 3 and custom-bound volumes (percentages of row totals in square brackets; χ^2 expected cell frequencies in parentheses)

State of plate facing p. 467	Volumes in publisher's cloth	Volumes in custom-binding or in part 3 in wrappers	Totals
1: "Page"	2 [11%] (7.13)	16 [89%] (10.88)	18
2: "Page 467"	2 [25%] (3.17)	6 [75%] (4.83)	8
3: "Page 467"	15 [68%] (8.71)	7 [32%] (13.29)	22
Totals	19	29	48

Table 3c. *A Flora of Shropshire*: Compressed contingency table (from Tab. 3b) of states of plate facing page 467 and casings, combining second and third states of the plate (percentages of row totals in square brackets; χ^2 expected cell frequencies in parentheses)

State of plate facing p. 467	Volumes in publisher's cloth	Volumes in custom-binding or in part 3 in wrappers	Totals
1: "Page"	2 [11%] (7.12)	16 [89%] (10.88)	18
2: "Page 467" or	17 [57%] (11.88)	13 [43%] (18.12)	30
3: "Page 467"			
Totals	19	29	48

gutters between gatherings must be examined to confirm how they were originally issued, since, of course, some volumes originally in publisher's cloth cases may have been rebound following deterioration.

Appendix 3. Variant publisher's cases of *A Flora of Shropshire*

Table 2 shows that 20 of the 48 consolidated volumes examined are in original publisher's cloth (11 of them containing Van Voorst's advertisements) and the remaining 28 copies are custom-bound. Leighton's own custom-bound copy also contains Van Voorst's advertisements, suggesting that it might have originally been in publisher's cloth. Though lacking binder's tickets, three styles of undoubted publisher's cloth (cases **a–c**) were encountered. All three cloth-grains are similar, classified as **Krupp Rib3** (Krupp 2008), a cloth used most frequently during the 1830s and 1840s (Krupp 2008, p. 28), which is consistent with the proven publication date of *The Flora*. A fourth style (case **d**) may also be of publisher's cloth, but the evidence is conflicting (see later).

For convenience, individual copies are referred to as either the Davies or the Van Voorst issue, depending on the leading publisher's name on the alternative title-page state (see previously). No copy examined contains advertisements for Davies's books. Van Voorst's advertisements may be found after the letterpress in either issue; they occur in two forms; the rarest (a single example in a Van Voorst issue of case style **d**) comprises a conjugate pair of leaves, printed by Manning and Mason, 12 Ivy Lane, London, and dated July 1839 (see Williams 1988 for a reproduction of its first page). A later, more extensive, illustrated advertisement was found in eleven copies; dated March 1840, it comprises a gathering of eight leaves, printed in London by Samuel Bentley, Bangor House, Shoe Lane.

With the exception of Leighton's own copy, all the custom-bound examples examined lack inserted advertisements, as do the original parts in wrappers (Tab. 2). Whilst some at least of the custom-bound copies in academic libraries might be composed of the original parts, it is unfortunate that they could not be examined for crucial evidence such as new sewing holes and traces of removed wrappers in the gutters between gatherings.

In the absence of any binder's tickets, it is impossible to be absolutely certain whether Davies cased all the copies in Shrewsbury or whether Van Voorst might have had some cased in London. However, it seems more likely that Davies was the binder, since the cloth grain and styles of decoration are quite different from what may be observed on other books published by Van Voorst during the late 1830s. Leighton's own copy of *The Flora* was custom-bound in two interleaved volumes with Davies's binder's ticket in both. Lack of cogent evidence precludes any reliable listing of the following case styles in chronological order.

Case **a**: Found only on Davies issues (Fig. 13). Quarter-cloth of dark green (fading to dark brown), horizontal-rib grain (12 ribs/cm **Krupp Rib3**) with beige paper-covered sides (boards 232 × 145 mm). No advertisements; end-papers are cream or white. The undecorated spine bears a white paper label printed in black, "LEIGHTON'S | FLORA | OF | SHROPSHIRE." with a single thin, plain rule above and another below.

Case **b**: Found on Davies or Van Voorst issues (Fig. 14). Full cloth of a mid-brown, vertical-rib grain (11 ribs/cm **Krupp Rib3**). Each board (229 × 143 mm) is blind-stamped with a posy of flowers (100 × 69 mm) centred within a border of four blind rules (the outer rule is the widest, then two narrow rules, and the inner one intermediate; 9.5 mm wide overall). In the second of the six panels on the spine is a gilt title reading "LEIGHTON'S |

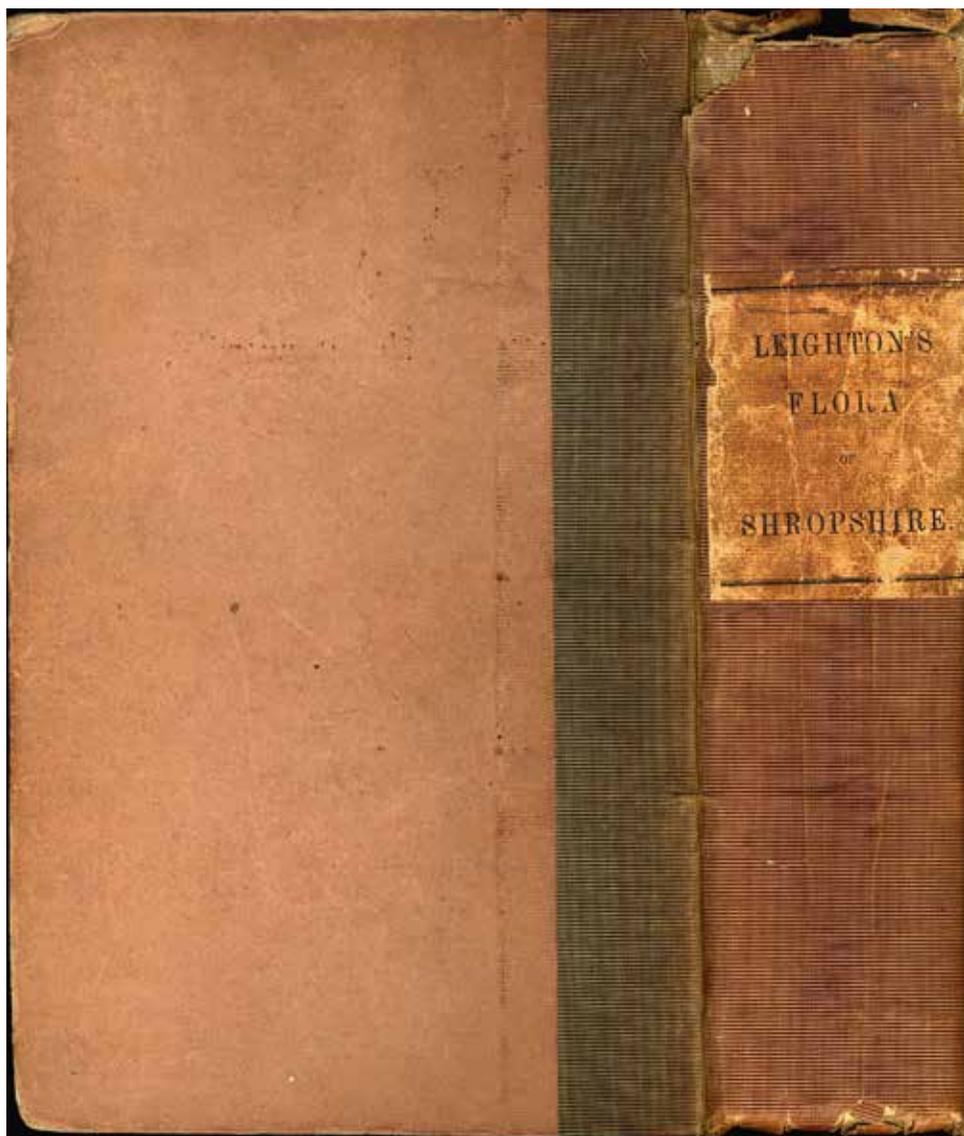


Figure 13. Case style **a** for *A Flora of Shropshire*. Actual size of boards 232 × 145 mm. Photo R. B. Williams, 2015, personal collection.

SHROPSHIRE | FLORA". Each panel is separated by bands of four blind rules (the two outer rules narrow, the two inner ones thicker; 8 mm wide overall). The bottom panel is narrower than the rest with only one thick rule at the top. All examined copies cased thus have Van Voorst's advertisements dated March

1840 inserted at the end. The end-papers are pale yellow. The Davies issue inscribed to William J. Hooker on 17 November 1840 (see previously) is in this case.

Case **c**: Found on Davies or Van Voorst issues (Fig. 15). Full horizontal-rib grain cloth, extremely dark green, almost black in

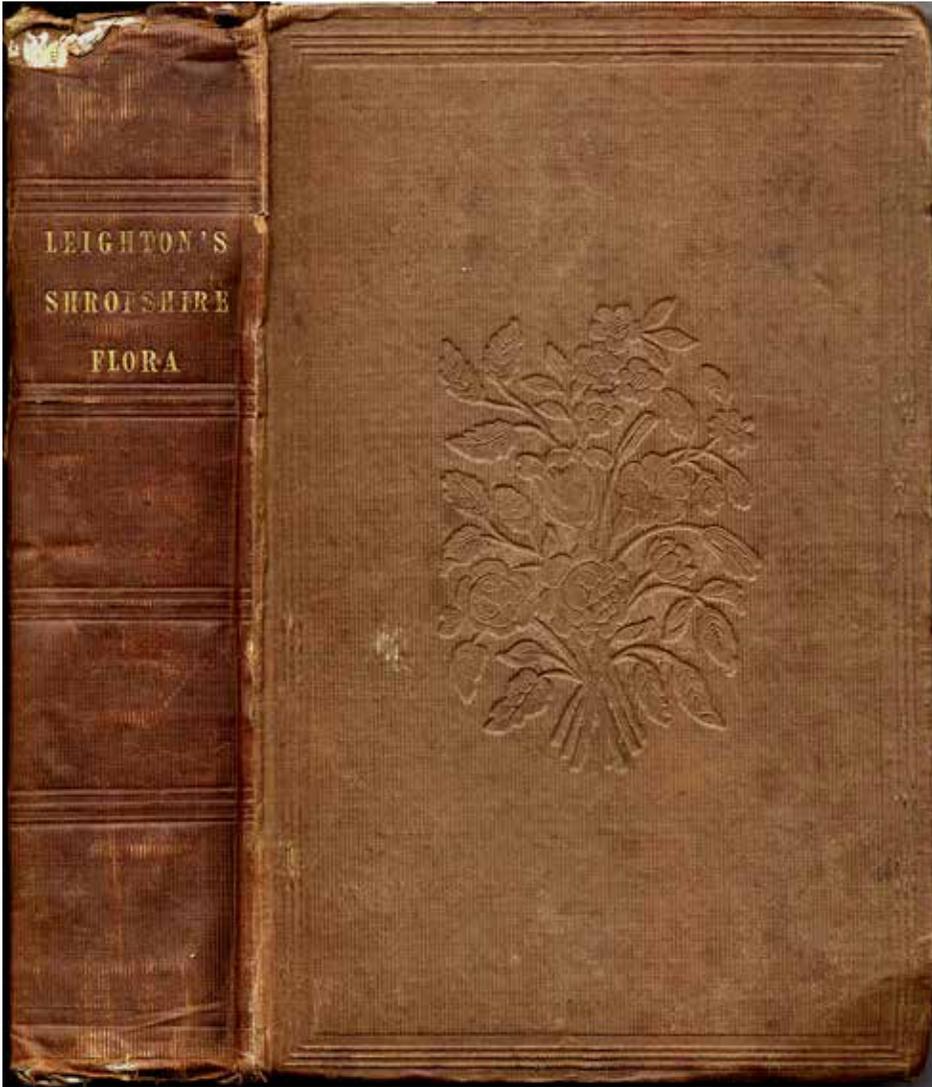


Figure 14. Case style **b** for *A Flora of Shropshire*. Actual size of boards 229×143 mm. Photo R. B. Williams, 2015, personal collection.

poor light (10 ribs/cm **Krupp Rib3**). Each board (229×143 mm) is blind-stamped with a central posy of flowers (identical with that on case **b**) within a border of three blind rules mitred together at corners (the outer rule is the widest, the two inner ones much narrower; 11.5 mm wide overall). The posy device is accidentally inverted on one copy

seen of the Van Voorst issue. The gilt spine-title reads “LEIGHTON’S | FLORA OF | SHROPSHIRE” in the second of the six panels divided by bands of four blind rules (the two outer rules narrow, the two inner ones thicker; 10 mm wide overall). The bottom panel is much narrower than the rest with one thick rule at top and bottom; furthermore,

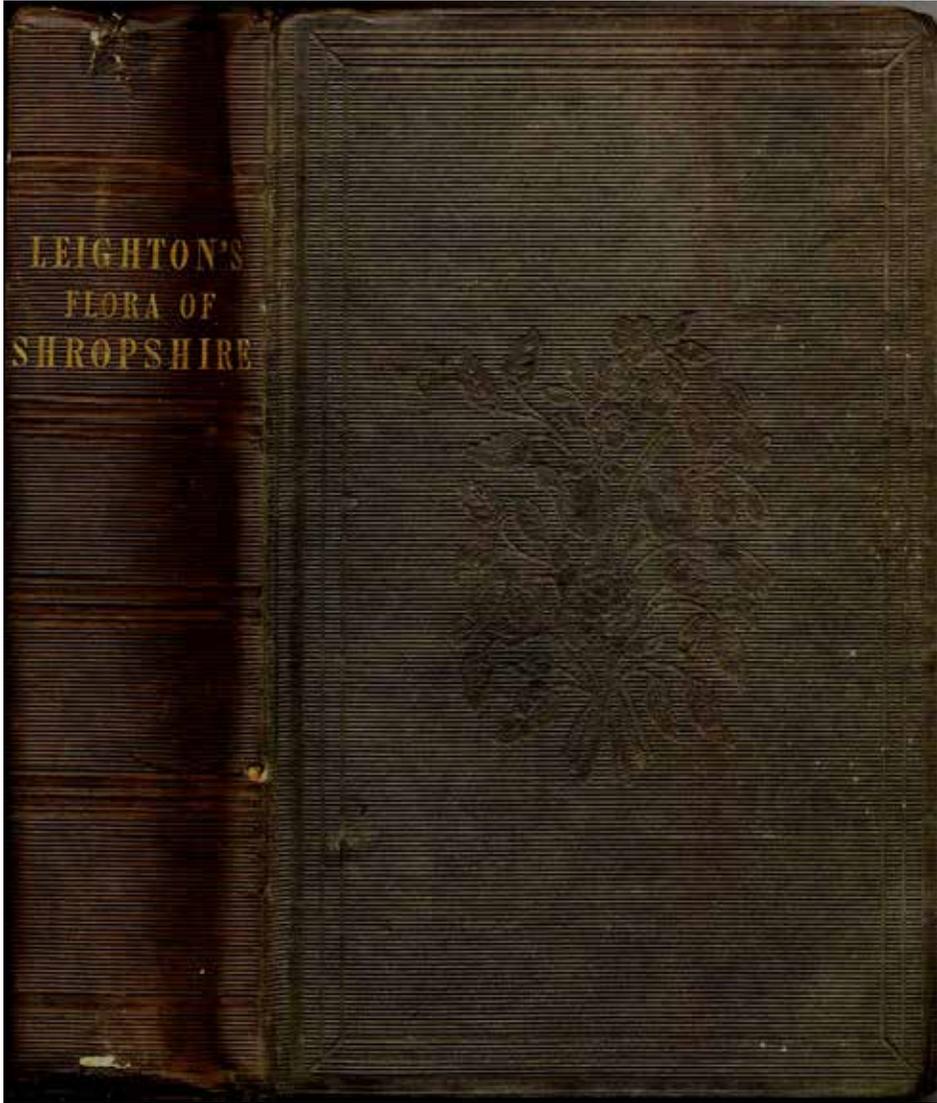


Figure 15. Case style **c** for *A Flora of Shropshire*. Actual size of boards 229 × 143 mm. Photo R. B. Williams, 2015, personal collection.

the panels and rules are spaced differently from those of case **b**. A single Davies issue seen had the rib grain orientated vertically, apparently accidentally; otherwise sharing all other characteristics. The only copy with advertisements (Van Voorst's, dated March 1840) was of a Van Voorst issue. The endpapers are yellow or cream.

Case **d**: Full cloth of a greyish-green pebble grain (**Krupp San5**), was found on only one copy of a Van Voorst issue with his advertisements therein, dated July 1839 (see above). The boards (229 × 143 mm) are not decorated; the five-panelled spine with blind rules reads in gilt "FLORA OF | SHROPSHIRE" in the second panel, and

“W. A. LEIGHTON” in the fourth panel, and the remaining three panels are each occupied by a blind diamond-shaped device enclosing a Greek cross. The end-papers are white. Although this style appears to be in a publisher’s cloth, the early date of the advertisements is incompatible with the date range (1850–1880) of books recorded in **San5** cloth grain by Krupp (2008, p. 30). Moreover, the style of decoration appears to be too late for 1840. I can at present offer no adequate explanation for these irreconcilable observations, which cast some doubt on this case being of publisher’s cloth.

Case e: A notional style only (none seen). However, according to Pamplin’s 1858–1862 advertisements for remainder copies in “extra boards”,¹¹ copies similar to this description presumably must exist. They would be perhaps in morocco leather, perhaps decorated in

gilt, with all edges of the text block gilt. The title-page leaf might be a cancellans with Pamplin’s publisher’s imprint. However, despite extensive enquiries I have been unable to trace any example of Pamplin’s reissue.

Subjectively, there are no obviously strong associations between binding styles and title-page states (Tab. 2); the data are summarized in Table 4. A χ^2 test for associations would be invalid since the proportion of cells with an expected frequency of <5 is far too high at 75%. However, by combining data in columns **a**, **b**, **c**, **d** and **w**, it may safely be concluded that the totals of Davies and Van Voorst issues observed in either original wrappers or publisher’s cloth (15 and 8 copies, respectively) are not statistically significantly different from those in custom-bindings in column **x** (15 and 13 copies, respectively), validly compared by a two-tailed Fisher’s Exact Test ($P = 0.568$).

Table 4. *A Flora of Shropshire*: Contingency table of publishers’ issues and wrappers of parts and casings of consolidated volumes (percentages of row totals in square brackets; χ^2 expected cell frequencies in parentheses)

Issue	a	b	c	d	w	x	Totals
Davies	6 [20%] (3.53)	5 [17%] (5.29)	1 [3%] (2.35)	0 [0%] (0.59)	3 [10%] (1.76)	15 [50%] (16.47)	30
Van Voorst	0 [0%] (2.47)	4 [19%] (3.71)	3 [14%] (1.65)	1 [5%] (0.41)	0 [0%] (1.24)	13 [62%] (11.53)	21
Totals	6	9	4	1	3	28	51

Column headings: **a** = case style **a**; **b** = case style **b**; **c** = case style **c**; **d** = case style **d**; **w** = wrappers; **x** = custom-bound.

Notes

1. Library Hub Discover (<https://discover.libraryhub.jisc.ac.uk/>) superseded COPAC (Consortium of Online Public Access Catalogues) on 31 July 2019. Coverage now comprises about 130 academic and specialist library catalogues in the United Kingdom and Ireland (accessed 15 September 2020).
2. The abbreviation “PR (ed. 1)” refers to Pritzel (1851, p. 153). However, Pritzel’s statement, “Prodiit inde ab anno 1838 tribus particulis”, is not comprehensive, and his stated publication date of 1841 for *The Flora* is incorrect.
3. Letter to the Rev. Thomas Salwey, 4 April 1836. Depository: Ludlow Museum Resource Centre, Ludlow, Shropshire, United Kingdom, Salwey Correspondence Collection, accession no. SHRCM B.02809.
4. “Salop” is an ancient, now almost obsolete, name for the English county of Shropshire.
5. Davies had previously employed this strategy when he printed and published Leighton’s *Catalogue of the Cellulares* (Leighton [1837b]). In that instance Davies joined forces with the Longmans’ firm, who handled the marketing from London, just as Van Voorst and, then later, Pamplin did for *The Flora*.
6. Walter Rothschild’s copy of *The Flora* (Rothschild collection 581.9(410:40) LE1), held in the Botany Library of the Natural History Museum, London, has this letter tipped-in.
7. In the most important of the British book-trade magazines, *The Publishers’ Circular* and *The English Catalogue of Books*, Van Voorst alone is incorrectly stated to be the publisher (Low 1864, p. 454).
8. On the use of “w” prefixes for the pagination of paper wrappers of fascicles, see Williams (2005).
9. Letter to the Rev. Charles Cardale Babington, 2 May 1840. Depository: Cambridge University Library, Western Manuscripts, MS Add. 8182/65.
10. Pamplin apparently had previously also obtained, either from Davies or the Longmans, the remainder stock of Leighton’s *Catalogue of the Cellulares* (Leighton [1837b]), which he advertised as “Lately published, price 6d.” in *The Times*, (24 October 1853, no. 21567, p. 10). This suggests that Leighton had early relinquished his copyright of this title as well, being so long before he died in 1889.
11. “Extra boards” indicates a (usually) morocco-leather binding, elegantly lettered and decorated with all edges gilt (Carter 1972, p. 90).
12. Advertisements were sought using the following strategy. All volumes of *The Publishers’ Circular* for 1850 to 1865 were examined. In addition the digitized copies of 44 works published by Pamplin (several in multiple parts) that were included in Library Hub Discover were checked for advertisements for the reissue of *The Flora*; only one was found, for 1862. No copy of *The Flora* issued “in extra boards” by Pamplin was discovered in Library Hub Discover. Neither did I find any advertisements for it in British national and provincial newspapers: <https://www.britishnewspaperarchive.co.uk/> (accessed 14 November 2020).
13. Allen Edward Everitt (1824–1882) was the son of Edward Everitt (1793–1880) and his wife Harriet Parkes (1797–1877), the sister of Leighton’s wife Catherine Parkes (Harrison and Wildman 2004). See also Boase (1892–1921).
14. Davies’s binder’s tickets are to be found in Leighton’s own copy of *The Flora*, bound in two volumes, which is held by the National Library of Wales. The tickets are about 15 × 10 millimetres, printed in black within a single-rule border on red or green paper thus (in quasi-facsimile): “Bound by | JOHN DAVIES, | 15, HIGH ST. | Shrewsbury.”. Davies’s ticket was not known to Ball (1985). The John Davies of Shrewsbury listed in *Bookbinders of the United Kingdom Outside London* (Ramsden 1954, p. 60) was active too early to be our man, but he and the “R. Davies” of 7 High Street may have been relatives.
15. The spelling of “controul” is not a typographical error. Interestingly, this example of an archaic spelling of “control” is much more recent (1840) than its latest use recorded as in 1823 in the *Oxford English Dictionary*.
16. Further opinions regarding the value of detailed species descriptions in general, as opposed to Allen’s, appear sporadically in the literature over a long period. For instance, in a review of part 1 of R. T. Lowe’s *A Manual Flora of Madeira* (Lowe 1857) the author was quite enthusiastic about the comprehensive species descriptions (Anonymous 1858):

It is not a list of the plants of Madeira, with their localities, but a description of every species, with the character of the genera, orders, and classes. The descriptions of the plants are fuller and more complete than is usual in manuals of botany, hence it will be found of greater service to those who are entering on the study of botany, or who do not possess in other works an account of the plants referred to.

On the other hand, C. C. Babington's *Manual of British Botany* (Babington 1843), its descriptions being quite at the opposite extreme to those in Lowe's manual, was viewed adversely by Clapham et al. (1952, p. xi), who clearly appreciated the value of much fuller descriptions: "Its scanty and frequently not very clear descriptions make it unsuitable for the average student of botany and particularly for the beginner."

17. The "English Flora", the second edition (J. E. Smith 1828–1830) of which was employed as a textbook by Leighton (1841[1838–1840], p. x) in preparing his work, is quite distinct from the 36 volumes of *English Botany* (Smith and Sowerby 1790–1814); similarly employed by Leighton was the third edition of *The British Flora* (Hooker 1835).
18. Transects are compared by laying a straight-edge diagonally on a printed page so as to join two convenient points (ideally full-stops) spaced as far apart as possible, and observing exactly where the characters in the intervening lines of type are cut by the edge. The same procedure applied to the page bearing apparently identical text in another copy will reveal whether their typesettings are truly identical or not. This is the most decisive criterion for distinguishing typesettings because it is quite possible that a complete page of reset type could appear, just by a line-by-line comparison of the wording, to be identical with another, yet the chances of its spacing being unchanged are almost infinitesimal (McKerrow 1927, p. 183). It goes (almost) without saying that, in addition, the length of the line between the two points will be the same in both of the copies being compared if they are identical.
19. Signatures J, V and W are omitted, as is usual in the printers' standard alphabet for signing gatherings of leaves (see Williams 2012c).
20. Letter to Asa Gray, to the care of Dr. Torrey, New York, 10 June 1836. Depository: Harvard University Botany Libraries, Cambridge, Massachusetts, Asa Gray correspondence; seq. 182.
21. It may be noted that, in any case, the plates would most probably have been printed in batches depending on the current demand for copies of the book. This was common practice at that time. Bernard Quaritch (1819–1899), in referring to his reissuing of the remainder text of another work (quoted by Nash 2004, p. 115), wrote:

When in 1876 the remainder of this text came into my hands, Messrs. Day and Sons completed the copies by printing off the

necessary plates as is usually done in similar undertakings. No publisher ever thinks of printing at once the same number of plates as he has printed of the text.

22. Hand-stamping of lettering on plates is not mentioned in any reference book that I have consulted; for instance, Gould (1876), McKerrow (1927), Padwick (1969), Wakeman (1973), Gaskell (1974), Bridson and Wakeman (1984), Bridson et al. (1986), Bridson and White (1990).

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