
Dandelions of Great Britain and Ireland. BSBI Handbook No. 9. A. A. Dudman & A. J. Richards. Illustrations by Olga Stewart. Edited by P. H. Oswald. London: Botanical Society of the British Isles. 1997. 344pp. ISBN 0 901158 25 9. £17.50 (paperback).

Most botanists, professional and amateur alike, with an interest in the British flora recognize only one species of dandelion in this country, *Taraxacum officinale* agg., but dandelions are very variable and a small but dedicated band of taraxacologists, the rather grand name for dandelion specialists, recognize a much more complicated state of affairs. Practical identification guides such as the *Excursion Flora* (Clapham et al., ed. 3, 1981) hint at the complications by keying out five sections of the genus *Taraxacum*. They then recommend that if you are interested in identifying species you can consult more specialist guides. For those waiting for the definitive answer to their problems of dandelion identification, this BSBI Handbook is their guide, covering over 200 dandelion species (according to the book it includes 235 species but I counted 233). However, it is for the dedicated taraxacologist only, and they won't find it an easy task to identify their particular dandelion, even if they're in the right place at the right time, i.e. by a motorway in April.

Once you've found your dandelion and are trying to identify it with the key in this book you are immediately warned of the difficulties ahead. The key is preceded by an introduction discussing the difficulty of naming dandelions because they are very variable and have rather few characters, most of which are not reliable. The species are arranged in sections which are keyed out using features of the bracts below the capitulum, leaf dissection, achene morphology, etc. The authors also use many quantitative characters which require a subjective choice to be made, e.g. plant robust or delicate. This requires considerable prior knowledge of dandelion habit before you can start to identify them, even to sectional level. The key does not pretend to be infallible for identifying species and you need to refer to the individual accounts which consist of written descriptions for every species and pictures in the form of silhouettes. The pictures show most of the dandelions covered by the book but they are of limited value for identification and the descriptions don't provide much additional help since they are inconsistent and not always easy to compare with each other. There is also the difficulty of perceiving the distinction between some of the character states, for example capitulum colour is described as yellow, mid yellow, bright yellow or deep yellow.

The reasons for the difficulty in identifying dandelions are now well known, in large part thanks to the research of John Richards, one of the authors of this book. They are apomictic which means that they can produce seed without fertilization. This shortcut, bypassing the inconveniences of sex, means that all seed produced by one dandelion will produce identical plants to their parent. That is, they would be identical if they all grew under identical conditions, but dandelions also have the unfortunate ability (if you're trying to identify them) of producing very different-looking plants under different conditions, especially of light or nutrients. However,

if you go to any place in the British Isles you might expect to be able to identify the dandelions because they should all look more or less alike and, if you looked carefully, you could ignore the ones growing in shade or in the middle of cowpats. But the picture is complicated by dandelion ecology since they are weeds which frequently colonize roadsides and other manmade habitats and the distribution maps presented for all the species show that many of them are widespread. This means that distribution can't be used as an aid to identification, as it can for other difficult groups in the British flora such as sedges, which have very characteristic ecological and geographic ranges.

So why would you want to place a dandelion in one of the many species listed in this book? Their reproductive biology and ecology, although not covered in detail in this book, helps to explain the patterns of variation and there's little doubt that the entities identified are real in nature. However, to my mind there is doubt about why they should be named. Sexual taxa may show a similar amount of variation to that encompassed by dandelions but the variation could only be taxonomically recognized by giving individuals a name, a thing no sane botanist would want to do. By naming apomictic lines taraxacologists are effectively naming every different genetic individual, which is taking taxonomic splitting to absurd extremes. However, someone has gone to the trouble of naming them, and if you're on the lookout for an arcane hobby why not take up taraxacology? But, even with the aid of this book, you need to devote a good deal of time to identify a dandelion: so be warned, as the authors point out, 'dandelions are difficult'.

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Gardens of Empire: Botanical Institutions of the Victorian British Empire.

Donal P. McCracken. London & Washington: Leicester University Press. 1997. 242pp. ISBN 0 7185 0109 8. £55 (hardback).

This is a fascinating and useful book crossing the boundaries of social and botanical history. A wide range of institutions from Botanic Gardens (in their many varieties) to experimental stations is covered, which is entirely valid, as the distinctions are not clear cut. As many of the major Botanic Gardens (Kew, Melbourne, Sydney, etc.) have their own published histories, one of the greatest values of the present work lies in the information about the smaller institutions of the Empire, about which little has been gathered together and published. The author has used a large range of widely dispersed sources, in particular published reports and the Kew archives. The author is a social historian and so covers a range of fascinating topics that would be missed, or treated with contempt, by a botanist or historian of science with a scientific background. For example I like the story of the unfortunate Mr and Mrs Dunlop who were thrown out of the Sydney Garden for displaying 'uxorious affection'. It is pleasantly free of generalizations and an excellent range of quantified