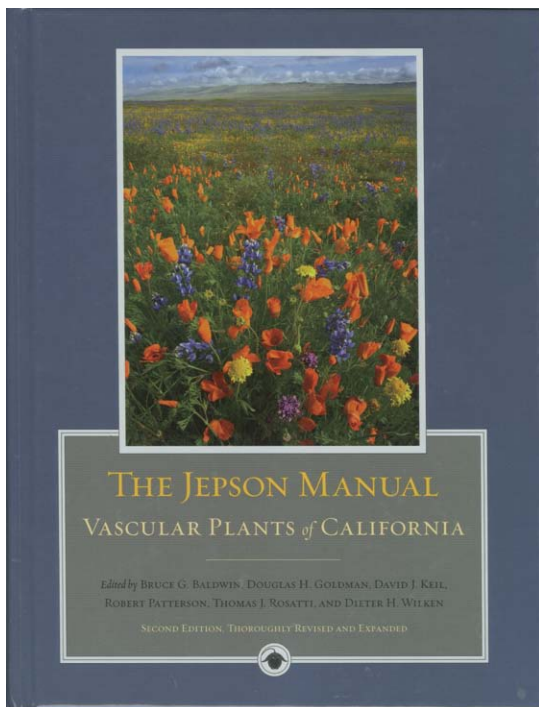


Bruce G. Baldwin, Douglas H. Goldman, David J. Keil, Robert W. Patterson, Thomas J. Rosatti & Dieter H. Wilken (eds) (2012)

The Jepson Manual. Vascular Plants of California. Second edition. xxii + 1568 pp.
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In this era of rapid change it is no minor challenge to produce a high quality, comprehensive, single volume flora for a large and species-rich area. Molecular biology generates revolutionary change in classification; conservationists and field botanists increasingly pay attention to garden escapes and incoming non-indigenous casuals as potentially invasive species; and the world of ‘book production’ is bombarded with new digital products and applications that are being announced on an almost monthly basis. Also it cannot be ignored that in a rapidly changing environment distribution patterns of native plants change, with some species expanding their range and populations, and others becoming threatened rarities.

Ten years after the first edition of *The Jepson Manual* (1993), the idea of a thoroughly revised new edition took root. Over the next ten years a team of over 300 authors has brought about the second edition (TJM 2). At first sight, the book differs not that much from the first edition. The flora describes some 6,500 native species, subspecies and varieties, which is 310 more than the first edition. The number of naturalized taxa is now c. 1,100. Some taxa which were

previously described as ‘naturalized’ have been transferred to the category of ‘waifs’ (ephemeral casuals); this helps explain the modest increase of naturalized taxa (+30) in TJM 2.

Each attempt to squeeze an overview of such a rich flora into a single volume comes with a price. The very concise, abbreviation-rich format of keys and descriptions requires that the user carefully reads the preliminary conventions before using this flora. Once the reader is familiar with these, the rigid structure of the text reveals itself user-friendly and packed with relevant detail. A tiny example is the use of a superscript in the keys to indicate the number of times a taxon occurs in that key. TJM 2 contains illustrations for over 4,800 taxa. Most of the illustrations combine a drawing of the habit with diagnostically important details of flowers, seeds, fruits, leaves, etc. Although small, they convey very useful information and help confirm the correct name of a keyed-out species. Unfortunately, the keys (including the 38 page key to families) are devoid of references to these illustrations. The dense and uniform species descriptions are ideal for saving space, but the rigorous layout has prevented the inclusion of useful cross-references or remarks, for instance to draw attention to possible confusion between closely related taxa or look-alikes. This is all the more regrettable while throughout TJM 2 families, genera and species are arranged alphabetically; this often creates a distance between the description of closely related taxa in a species-rich family or genus.

A rather drastic way to limit the number of pages consists in not treating certain categories of plants in detail. A primary goal of TJM 2 was to include all native and naturalized vascular plants of California. A small number of waifs can be keyed out, but their description is not included in the paper version. So-called ‘historical waifs’ (not collected in the last half century) and aliens occurring outside cultivation but only in highly modified environments have been excluded. This is unfortunate, while some of these species may occur quite frequently (e.g. certain horticultural weeds).

Descriptions of recently observed waifs, of which some 240 are included in the keys, are absent from TJM 2. They are, however, available in the online version (<http://ucjeps.berkeley.edu/IJM.html>). The keys and descriptions in this *Jepson eFlora* differ little from TJM 2, but in the future the editors intend to use the digital version to update the contents of the book. Users of the digital flora have access to distribution maps, detailed information on herbarium collections, numerous links to other floras, illustrations, Calfora (a website with interesting taxon reports), and much more. Inbuilt is also the possibility for users of the flora to send feedback through email.

Does the final product of the Jepson Flora Project 2003–2010 meet the high standards it has set itself? An important element of the philosophy of TJM 2 is “a commitment to producing a field portable volume that will serve botanists

of diverse backgrounds”. It is questionable whether a book weighing over 2,600 grams is still field portable, or whether the required balancing between competing interests has yielded a manual that satisfies both the beginning student and the academic systematist. In rereading the paragraphs on the ‘Philosophy’ in TJM 1 and TJM 2, I get the feeling that the emphasis has somewhat shifted towards a flora aimed above all at academics. See, for instance, the inclusion – “for reasons of scientific accuracy” – of cryptic taxa that are difficult or impossible to recognize based on morphology alone, but are clearly distinct evolutionary. The editors duly explain how they have handled cases in which molecular and morphological studies appear to contradict each other.

The book, with all its densely packed information, is an indispensable up-to-date treasure trove for academics and a flora to be envied by botanists from outside California. With all the additional information made available in *Jepson eFlora* an ambitious ten-year project has culminated in a flora to be used or browsed by anyone with a serious interest in the plant life of the global diversity hotspot that is California. In the future, users of the flora can only wish for the digital version to enable the editorial team to overcome the necessary drawbacks of volume restrictions in the paper flora. The

editors indicate that in the past aliens have been neglected by many field botanists and deserve higher priority. A very meaningful step forward would be to treat more waifs – including rarities only recorded from urban and other highly modified lands – in the online keys and descriptions. With the coming of the internet, volume restrictions have disappeared, thereby paving the way for the application of the straightforward criterion that a flora should “enable field-botanists and those working with herbarium specimens to identify plants that are found in the wild” (Stace 1991). A higher visibility of exotics in *Jepson eFlora* would no doubt stimulate the study of a highly dynamic segment of the flora of a rapidly changing California. Inclusion of this group, would also contribute to further develop TJM and *Jepson eFlora* into two complementary parts of a single flora project.

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REFERENCE

- Stace C. (1991) *New flora of the British Isles*. Cambridge, etc., Cambridge University Press.