

Book review / Buchbesprechung

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Ghazanfar S. A. & Edmondson J. R. (ed.): Flora of Iraq, Volume 5 Part 2: Lythraceae to Campanulaceae. – Kew: Royal Botanic Gardens, 2013. – ISBN 978-1-84246-493-9. – xi + 349 p., 120 line drawings; paper-back. – Price: EUR 100.

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After a hiatus of nearly thirty years it is very encouraging to see that the *Flora of Iraq* project has regrouped and signalled its intent with the publication of Volume 5 Part 2. This much-awaited volume includes 322 species of families *Lythraceae* through to *Campanulaceae*, using the long out-dated family sequence of John Hutchinson's classification published in the late 1950s. Sandwiched between these, and 13 other smaller families, is the *Apiaceae* (*Umbelliferae*) which occupies more than half of the pages with its 66 genera and, although not recorded in the family notes (statistics for families and genera are inconsistently provided), 148 species, among which 41 genera are represented by one species in the area. The other families in this volume are *Onagraceae*, *Haloragaceae*, *Gentianaceae*, *Menyanthaceae*, *Primulaceae*, *Plumbaginaceae*, *Plantaginaceae*, *Crassulaceae*, *Saxifragaceae*, *Vahliaceae*, *Parnassiaceae*, *Valerianaceae* and *Dipsacaceae*.

The *Flora of Iraq* project was initiated in 1960 as a joint undertaking of the Iraqi Government's Ministry of Agriculture and the Royal Botanic Gardens, Kew. This built on three decades of collaboration with Kew and other international partners, including the formation of Iraq's National Herbarium in Abu Ghraib, under the Ministry of Agriculture in 1949. The country of Iraq covers nearly 440 000 km², and although the northern highland regions are included in Karl Heinz Rechinger's *Flora iranica*, many of Iraq's 3300 species of higher plants occur outside this area. *Flora of Iraq* was planned to be published in nine volumes, but work was halted after the publication of the 6th volume: volumes 1, 2, 3, 4(1), 4(2), 8 and 9 appeared between 1965 and 1985.

Work on the *Flora* started with Kew taking responsibility for editing and publishing the volumes. Pre-eminent among the many contributors of family accounts were the Iraqi scientist Ali Al-Rawi together with Jan B. Gillett, working under chief co-editors Cliff C. Townsend and Evan Guest. The content and layout is not surpris-

ingly reminiscent of the "Kew Floras" that were underway at that time (*Flora of Tropical East Africa* had begun in 1948 and was then in full swing), adopting a typically comprehensive and detailed yet concise approach to documenting Iraq's vascular plants. Dichotomous keys are provided to aid identification of all recognized taxa, and many species are illustrated with line drawings. Information on nomenclature and classification is given in detail, including extensive synonymy and numerous citations to names appearing in other taxonomic publications relating to the region. Unfortunately distribution maps are not provided, instead a representative list of herbarium specimens is given under the abbreviated codes of major physiographic regions and districts of Iraq. A map and explanation of these codes can be found in volume 1 (Fig. 3) and on the Kew web site (<http://www.kew.org/science-conservation/research-data/science-directory/projects/flora-iraq>), but it is a shame that this map is not reprinted in the present volume (the two blank pages at the back of the book could have been used for this). Other information provided for each species includes: a statement of distribution outside Iraq; notes on taxonomic issues and other features; habitat, altitudinal range, ecology and phenology; and chromosome numbers.

The change of government in Iraq in the 1980s led to the discontinuation of funding and the halting of the project, leaving a considerable portion of the herbaceous dicot families unpublished, although many existed as draft manuscripts. During 2011, the new Iraqi government facilitated the restarting of the project, with the Ministry of Agriculture in Baghdad resuming its long-standing collaboration with Kew. The remaining three volumes, of approximately 1530 species (volumes 5(1), 5(2), 6 and 7) existed, in part, as typescripts and handwritten manuscripts, and it has been the daunting task of the chief editor, and project leader, Shahina Ghazanfar, to complete the task. As Ghazanfar says in her acknowledgements "to pick up an incomplete handwritten manuscript, type, edit and update it into a publishable account for a Flora requires much help and goodwill of many botanists". For volume 5(2) she has been ably abetted by her co-editor John Edmondson who, as well as writing *Parnassiaceae*, had the unenviable task of updating and completing Townsend's *Apiaceae* manuscript.

Of the four outstanding volumes, 5(2) was the "low-hanging fruit", as it was 90 % complete in manuscript

form (Kew web site, cited above). Even so, it has taken a substantial effort to take this through to publication, and Ghazanfar and her collaborators in Iraq, the UK and beyond must be congratulated on completing this, which at times must have felt like a thankless task – for it is far more satisfying writing your own floristic treatment than having to rework someone else’s draft account. Volume 6 (450 species) is 80 % complete in manuscript form, so one may assume that this will be the next to appear. However, the task to finish volumes 5(1) (300 species) and 7 (450 species) will be a great deal more challenging, as there are manuscripts for only 40 % and 20 % of these volumes, respectively.

There are those who will quibble about the archaic family order used in this book, but, as for all long-term Flora projects, the classification system is decided at the birth of the project, often many years before the appearance of the first volume, and so it is difficult to change. In my view the main purpose of a Flora is to facilitate the identification of taxa in a region, establish a reliable nomenclature to refer to those taxa, and provide authenticated information on ecology, distribution, etc. So the placement in a family is of secondary importance. Although the *Flora of Iraq* has had to keep Hutchinson’s order of families, wherever possible family circumscriptions and nomenclature have been updated to follow APG III. In some cases this was not possible because it was not practical to move large genera between volumes to reflect the current family delimitations, and in these cases useful commentary is provided (e.g. *Plantaginaceae* and *Valerianaceae*). In most cases the layout and content of past volumes has been maintained, but vernacular names are no longer cited in Arabic script (they are given in Roman transcription) and fewer specimens are cited, in an effort to save space. Improvements include the citing of authors of plant names and bibliographical references using the international standards now available, and the addition of more illustrations. Most (74) of the plates are the exquisite work of Derek Erasmus, prepared for the *Flora of Iraq* in the 1960s. Newly prepared plates of line drawings have been drawn by J. Beentje, M. Tebbs and others, and some illustrations have been reused from the *Flora of China*, *Flora of Pakistan*, *Flora palaestina* and *Flora of Turkey*. The high standard and number of illustrations is particularly laudable, although some of the “borrowed” plates are nowhere near the refined depictions of Erasmus, Beentje and Tebbs.

Perhaps the most challenging task was to take manuscripts prepared over 30 years ago and update them to reflect the increased number of plant collections available

and advancements in taxonomic knowledge. These decades have seen the near completion of *Flora iranica*, supplement volumes published for *Flora of Turkey*, and the start of new Floras in the region, such as *Flora of Socotra and the Arabian Peninsula*, *Flora of Iran*, and the revision of *Flora palaestina* – and so incorporating changes from these Floras into the *Flora of Iraq* is a major task. This is best seen in the *Apiaceae*, where Edmondson has tried to accommodate the somewhat contentious generic assignments of Russian authors published in *Flora iranica*, e.g. *Petroedmondia* as a split-off from *Smyrniopsis*, *Leutea* from *Peucedanum* and *Dichoropetalum* from *Johrenia*. The SW Asian genera of *Apiaceae* have not yet been well sampled in molecular phylogenies, and so time will tell if they hold up to modern scrutiny.

In publishing this volume “warts and all”, Ghazanfar and her collaborators have achieved what they set out to do – namely to make the information available as “an opportunity for a new generation of botanists to go out and study the flora in more detail, making use of the greatly improved communications within Iraq and employing modern methods [in the field]”. This latest volume is of course an essential reference to any student of the plants of SW Asia, but at EUR 100 it is very expensive for a paperback of this size, and I hope that heavily discounted copies will be made available to the young Iraqi botanists.

Although this volume may be considered to be already a historical document, I believe it will catalyse renewed botanical activity in Iraq. Hopefully a new *Flora of Iraq* will be produced in the near future, building on this solid foundation, but including richer knowledge on ecology, conservation status and liberally illustrated with photographs and maps. Such a Flora will no doubt be published digitally, and maybe the “historic” *Flora of Iraq* will be the last edition printed on paper. A Flora project should be much more than publishing floristic treatments – it should stimulate botanical research and build taxonomic capacity within the countries covered. The *Flora of Iraq* team has embraced this wider goal by involving Iraqi botanical professionals and training others in the skills of Flora-writing and taxonomy. Publishing volume 5(2) is a great achievement. I hope that the momentum can be continued to complete this much-needed reference which, in the words of the Director General of the Iraqi National Herbarium, “provides the means of documenting and managing the remarkable biodiversity of our country.”

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