

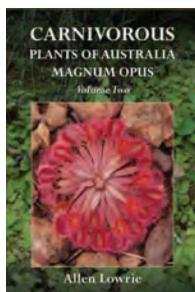
Carnivorous Plants of Australia: Magnum Opus

Allen Lowrie

2013. ISBN-13: Vol. 1: 978-1-908787-11-8; Vol. 2: 978-1-908787-12-5; Vol. 3: 978-1908787-13-2

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The publication of a self-styled “magnum opus” is unusual, but so are Australia’s carnivorous plants. Approximately one third of the world’s more than 750 species of carnivorous plants are native to Australia, including a large number of narrow endemics. Allen Lowrie has devoted his career to studying Australia’s carnivorous plants, and this informative, lavishly illustrated, beautifully produced, and surprisingly affordable three-volume set is a welcome addition to the rapidly growing literature on these botanical marvels.

The predecessor to the *Magnum Opus* was Lowrie’s three-volume *Carnivorous Plants of Australia*, published between 1987 and 1998 by the University of Western Australia. Despite its importance as the first complete survey of Australia’s carnivorous flora, this shorter (690 pages in total vs. 1355 for the *Magnum Opus*) and smaller (octavo vs. quarto) work had a small print run and rapidly went out of print. In the intervening quarter-century, Lowrie and his colleagues have found and described many more carnivorous plant species from Australia and dramatically expanded our knowledge of these plants in their native ranges.

The *Magnum Opus* itself introduces readers to the different types of carnivorous plants and the varieties of traps. Although this material covers no new ground, it is important to note

that all trap types, except for the “lobster-pot” trap of *Genlisea*, can be found within Australia’s carnivorous flora, and most within the southwestern region of Western Australia. Lowrie continues the *Magnum Opus* with a photographic journey through the various habitats and localities where carnivorous plants are found in Australia. These include alpine meadows, coastal heathlands (“wallum”), billabongs, lagoons, ephemeral pools, deserts, gorges, swamps, lakes, and some forests. The unifying characteristic of these habitats is that they all tend to be very low in nutrients and (at least seasonally) very bright, and many *Drosera* species grow only on silica-sand soils.

The meat of the *Magnum Opus* (>1000 pages), however, consists of keys, drawings, photographs, and descriptions of all of the Australian carnivorous plants known as of ca. 2010 (several more have been discovered and described since this book was published). These include *Aldrovanda* (1 species), *Byblis* (8), *Cephalotus* (1), *Drosera* (163), *Nepenthes* (3), and *Utricularia* (66). Each species gets a four-page spread on heavy, glossy paper, and includes a standard species description with historical, etymological, and ecological notes; a detailed set of line drawings showing salient characteristics; a GIS-derived range map; and a set of field photographs. Eighteen of these species are described for the first time in the *Magnum Opus* (additional information on each of these, as required by the *International Code of Nomenclature for Algae, Fungi, and Plants*, is provided in an Appendix). Four natural hybrids are also described. Lowrie also clarifies some nomenclatural issue (11 species are revised from varieties to full species status and 12 are recalled from synonymy), erects three new sections for *Drosera*, and clarifies the application of names for species in *Drosera* section *Arachnopus*.

As the *Magnum Opus* seems written and produced not only for professional botanists, but also for field naturalists, carnivorous-plant aficionados, and individuals who enjoy large, lavishly illustrated coffee table books, the use of the Appendix to describe new species and resolve nomenclatural issues seems out of place. Although these would have been better published in the peer-reviewed literature, their inclusion here may provide non-specialists with a window on how taxonomy and systematics evolves as new knowledge accretes.

In that vein, a very nice addition to the book is a compilation of biographies of the 54 botanists who have described one or more of Australia's carnivorous plants. These include not only very well-known taxonomists (e.g., Bentham, de Candolle, Hooker [both father and son], Linnaeus, and Planchon), but also a host of others—54 in total. All but one of the biographies are accompanied by a painting, etching, or photograph (the one exception is Francis Buchanan-Hamilton, who described *Drosera lunata* in 1824), and a list of the Australian carnivorous species that they described. Reading through these biographies provided a wonderful historical overview of more than three centuries of botanical exploration in Australia.

Finally, although the keys, drawings, and photographs will ensure accurate identification of Australia's carnivorous plants in the greenhouse, lab, or herbarium, the *Magnum Opus*—weighing in at more than 10 kg—is not likely to be carried in my field pack. For that, I await an app. But on my desk, the *Magnum Opus* will be the standard starting point for studies of Australia's carnivorous plant flora.

—Aaron M. Ellison, Harvard University, Harvard Forest, Petersham, Massachusetts, USA

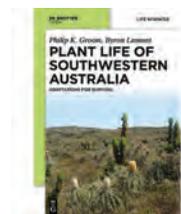
Plant Life of Southwestern Australia: Adaptations for Survival

Philip Groom and Byron Lamont
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Plant Life of Southwestern Australia: Adaptations for Survival is an equally valuable resource for enthusiasts in exotic and endemic flora—especially botanists, ecologists, taxonomists, phyto- and phylogeographers, and those involved in the bioprospecting-based biotechnology industry. Written for an audience expected to be well-versed in botanical, biological, and environmental terminologies, scholars from graduate students onward will find it immensely useful. Moreover, a long list of –omics researchers will appreciate the potential for generating new data for the described species using the information regarding adaptive strategies, mechanisms, advantages against calamities, soil types, and interactions with environment and fauna.

The prologue reveals that the inspiration behind this volume is Dr. Friedrich Ludwig Diels. A quick browse hints that the book promises to be an interesting read, offering informative insights on the region's flora evolution and diversity, anatomical pictures, landscape images, plant-animal interactions, ecology, socio-economic challenges, plant stress biology, and so on.

The first chapter gives an overview of plant evolution in the context of the southwestern Australian flora, providing a summary of much of the current literature. The topics covered include plants with fire-adaptations, unsurprisingly for the Australian flora. Chapter 2 will be of immense interest to