

REBMAN, J. P., AND ROBERTS, N. C. (EDS.). 2012. *Baja California Plant Field Guide*. San Diego Natural History Museum Publication and Sunbelt Publications, Inc. xx + 451 pp. ISBN-13: 978-0-9162-5118-5 flexible cover, \$34.95.

After over 30 years as a plant enthusiast and eventually botanist, I have had a long, serially-troubled relationship with field guides. First, I needed the color-based local guides to flip through as I learned to recognize new species. Later, as I learned a few distinguishing family characters, I liked having species grouped by plant family to make easy comparisons among related species. The least useful guides for my taste are those that include species alphabetically by common name. Yet whatever the arrangement of the taxa, a perennial complaint is that either there are not enough high-quality color photographs, or the wonderful photographs are of flowers when the plant I hope to identify has fruit or no reproductive structures at all.

This third edition of a classic field guide to plants of Baja California offers an exciting innovation to solve the problem of too few or out of season photographs by bringing together the worlds of natural history and high tech on-line digital images. This field guide itself provides terrific photographs for anyone using the text, but in addition, opens the door to the collection of photographs stored by the San Diego Natural History Museum. Although curmudgeons abound in botany and organismal biology (you know who you are), even they are finding smart phones, apps and other internet connections unavoidable. I can imagine the intrepid explorer on donkey back observing plants and identifying the species with help from the field guide, then confirming the identification with photographs available on line . . . as long as the cell tower is in service. The photographs available on *BajaFlora*, [BajaFlora.org](http://BajaFlora.org), include over 23,000 photographs from scientists and others who have explored and documented the natural history of the area.

Even without the high tech connection, this guide is a worthwhile improvement on the second edition. The number of species covered has increased by about 45% to 715, and the names of plants have been updated to reflect current understanding. The length of the book has increased from 256 to 451 pages. Readers of the previous editions will be saddened by the reminder that one author, Norman C. Roberts, is deceased. His work of over 60 years in collecting and observing nature in Baja has formed the basis of the new edition. His daughter provides a touching insight into the personal side of plant collecting for the field guide. The new edition is a tribute to the earlier work.

Although titled a field guide, this book is much more than the guides commonly available with a single photograph and a plant-by-plant

description. The authors include extensive introductory sections devoted to climate, geology, phytogeography, endemism, native and invasive species, and conservation. Nonvascular plants are covered very briefly, followed by spore-bearing plants, seed-bearing plants and the major focus, flowering plants (basal dicots, monocots and eudicots). The glossary, references, and especially useful line drawings of plant parts, including a section devoted to special structures of cacti, are clearly laid out and accurate. Each entry includes flowering times and describes the habitats where the species is likely to be seen. The distribution information used in the field guide was culled from herbarium specimens (roughly 75,000 of them) housed in the six herbaria of the Baja California Botanical Consortium. Botanical names used in the text are based on the *Jepson Manual* and *Flora of North America*.

Balancing the needs for precise technical terms to describe plants and for language accessible to a general reader can be a daunting task. The authors of the *Baja California Plant Field Guide* accomplish this task admirably. Descriptions are clear, and they include suggestions for distinguishing among similar species. The book is organized by plant family, allowing for easy comparison of similar genera within a family, then alphabetically within family and genus. I found the index to be accurate and complete (given that I did not complete an exhaustive proof-reading task for this review) and is organized in the manner I prefer, with common and scientific names of species listed in a single index.

A technical note for visiting the website: browsing thumbnail photos is only available with searches using both genus and species names. Searching by genus alone provides a list of species. The names from this list can then be used to search thumbnail photographs of the species before selecting one to enlarge. Although the search can take a bit of time, the access to this number of photographs is certainly worth the investment of those nanoseconds.

The audience for this field guide includes anyone visiting or living in Baja California and the desert Southwest. About 30% of the species treated are endemic to Baja, with 50% also found in southern California. Although you might find a species not included in the field guide, the discussions of plant families provides an introduction to the diversity of the area. The treatments of cacti and succulents would be valued contributions, even if they were presented separately from the guide as a whole. Those for whom visiting Baja is only a bucket list item could also find the thorough background information con-

cerning ethnobotany and ecology and general natural history a delightful armchair excursion. Plant enthusiasts with interest in desert plants will certainly find the text useful. This field guide could be an excellent addition to a course in field

biology in Baja or other dry regions of the Southwestern United States.

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