

## Reviews

### Plants of Deep Canyon and the Central Coachella Valley, California

Jan G. Zabriskie. Drawings by Carol Lewis. Philip L. Boyd Deep Canyon Desert Research Center, University of California, Riverside. 1979. 175 pp.

The author intended the book not only for scientists interested in desert research, but also "the expanding audience of people interested in native desert plants as they occur in their natural environment."

A habitat map in color folds out at page 13, followed by a series of nine chapters, each presenting a sketch of the vegetation of one of the habitats. Rather than presenting a standard floristic list, the author has reported the species in tabular form, graphing the elevational range of each. This has an obvious visual advantage or graphic impact which allows the elevational ranges of different species to be more easily compared. It has the disadvantage, however, of leaving no room for helpful annotations and species discussions. Such information is presumably reported in the chapters dealing with vegetation by habitat. This would probably be disconcerting only to a traditional plant taxonomist accustomed to scanning through annotated taxonomic treatments for observations on a certain family or genus being researched. Noteworthy observations scattered through the text can presumably be located by using the index.

A final chapter presents ecological data (principally percent cover and species diversity) from surveys made at 122-meter elevational intervals along a transect. Charts are presented which compare percent cover of specialized

plant life forms to total plant cover in major habitats. Percent evergreen cover relative to total plant cover appears to be bimodal, being particularly low between 488 and 732 meters on rocky slopes. Presumably these sites had little of the Creosotebush (*Larrea tridentata*) of lower elevations and little of the Pinyon (*Pinus monophylla*) and Chaparral vegetation of slightly higher elevations.

Another bimodal distribution appears in the chart which displays percent winter-deciduous cover relative to total plant cover. This bimodality must come from the phenomenon of cold air drainage at the intermediate elevations, cold-tolerant Mesquite (*Prosopis glandulosa* var. *torreyana*) being present on the valley floor and other cold-tolerant winter-deciduous species on the high montane slopes.

Percent succulent cover relative to total plant cover is high in just those elevations where winter-deciduous cover is low, again suggesting a response to cold air drainage. On rocky slopes at 732 meters elevation, succulents provide over 40% of the plant cover. Percent drought-deciduous cover relative to total plant cover, clearly an indicator of aridity, is virtually nil on the valley floor, suggesting the presence of water, high from 122 to 1,100 meters, and very low or zero at higher elevations, in classical test-book fashion.

### Dry Lands: Man and Plants.

Robert Adams, Marina Adams, Alan Willens and Ann Willens. The Architectural Press Ltd. London, England. 1978. vii + 152 pp. Price, 15.00 British Pounds.

On thumbing through this book it appears to be a scholarly review. Upon closer examination, the book attempts to cover so many topics in so small a space that it falls into the bad habit of oversimplifying. Under "DESERT VEGETATION TYPES" it recognizes 1) ephemeral plants, 2) succulent perennial plants, and 3) woody perennial plants, said to be mutually exclusive categories. But nothing is said of the herbaceous (i.e. nonwoody) perennials or the annuals which are not ephemeral or only facultatively so. Succulent perennials are said to be either spiny like the Cactaceae or "non-spiny but physiologically swollen plants." For a plant scientist to conjure up an image of a "physiologically swollen plant" he must imagine some pathological condition resulting from a plant being thrust into some powerful solution of unbelievable osmotic concentration. The first part of the statement concerning the spiny or non-spiny nature of succulents is like saying that a plant either has stiff branches, or if it doesn't, then it has green leaves. Of what relevance, you ask the author. Such statements disincline a botanist to spend much time in seriously reading the book. In the same paragraph, the ability of succulents to close their stomata in the daytime and open them at night is said to be a phenomenon which "is being intensively researched, especially in the U.S.A." And here in Arizona, we thought that this had been thoroughly reported on by scientists at Tumamoc Hill in Tucson well over 50 years ago.