

**The Organ Pipe Cactus.** Yetman, David A. 2006. University of Arizona Press. \$9.95 (USD) paperbound, 70 pages. ISBN 978-0-8165-2541-6.

This short book provides a sound and succinct account of the organ pipe cactus (*Stenocereus thurberi*), especially its interactions with humans (and to a much lesser extent, interactions with the lesser long-nosed bat). Yetman discusses this charismatic cactus species as though he knows it personally, which – after almost a half century acquaintance – he undoubtedly does know intimately. The organ pipe is a 1-10 metre tall cactus that branches profusely from the base and is probably the most characteristic plant species of the Sonoran Desert.

At first blush, this appears to be a pretty picture book with cursory factoids about the organ pipe cactus that one could readily compile from a litany of sources. But appearances are deceiving. Yetman has written a rich yet accessible book from his perspective as an ethnobotanist. He clearly knows and has worked with many of the experts in the field.

The organ pipe population of El Pitayal (named for the organ pipe cactus, whose common name in Mexico is *pitaya*), located in southernmost Sonora, provides several fascinating conundrums. Why does this southern population flower and fruit much later than more northern populations? In virtually all other plant species, we see the opposite pattern, probably due to temperature gradients. The El Pitayal population is of extremely high density, with huge plants, but essentially no seedlings. Why this peculiar demography? Is this an example of negative density dependent selection? What determines regeneration rates, especially of such long lived perennials? Yetman shows that there is no seedling recruitment in El Pitayal, even in areas where livestock are excluded. However, he describes nearby areas lacking livestock enclosures where seedlings abound. Organ pipe cacti at El Pitayal could provide several fascinating research projects, if not research careers.

This book is peppered with many interesting and unexpected pieces of information, of which I list a small sample of three. First, organ pipe cacti in the Pinacate Volcanic Region (immediately south of Organ Pipe Cactus National Monument) grow extensively along the routes that bats take from their roosts to their feeding sites. The organ pipe cacti effectively map the bat's routes, almost certainly due to the bats dispersing seeds in their feces. Unfortunately this observation by Bill Peachey appears to have never been published, other than possibly in a meeting abstract. Second, for most species of cacti, cuttings are best taken in warm

weather when plants are actively growing. Yetman's work in a Mayo village shows that the opposite is true for organ pipes, where antithetically cuttings taken in the cold of late winter root far better than those taken in late spring or early summer. Third, "many Mayo reported that the scorched peel of the fruit is applied directly to the anus for hemorrhoids, rightly cautioning that it must first be scorched enough to burn off the spines." I know organ pipe cacti fairly well, having lived in southern Arizona for several years and traveled in Sonora, but never knew these tidbits.

This is wonderful natural history and human history book, but does lack the precision of most biological science books. Lots of the data is either anecdotal or with very small sample sizes. Some things are stated by Yetman without question, such as that organ pipes have only been part of the Sonoran Desert flora for the last few million years. This is a bit misleading insofar as the Sonoran Desert has only been around for a few million years. Plus, there are no fossil cacti, except for in packrat middens that are no older than 40,000 years old. These are not complaints, but just reminders of the context in which this book was written.

The only faults with this book are in details of production of the figures and references. Except for the front and back covers, no photo credits are given. I suspect the author took all remaining photos, but this was never stated. At the start of each chapter is a pair of photos that are repeats of photos appearing elsewhere in the book. The book would have been approximately five pages shorter without these repeated images, which is about ten percent of the length of text. Format of references varies, e.g. author's first names are only sometimes abbreviated. Even one of Yetman's own citations is incorrect: Yetman and Van Devender was published in 2001, not 1991. But these are small complaints.

This is lively, entertaining, and informative reading from someone who truly understands this plant and its roles in people's lives. The photos are all in colour, of good quality, and beautifully integrated with the text. This book sells for just under \$10 (US), so there is hardly an excuse not to purchase it.

-Root Gorelick, Department of Biology, Carleton University, Ottawa, Ontario K1S 5B6 Canada.