

somatic and germ cells in reference to the germ line, yet the text does not point out that in plants, germ lines are not sequestered – of great importance to plant development, evolution, and plant breeding. Some sections flow better than others. I appreciated the chapter on light and water, especially some of the “why” in that section. Why are stomates spaced as they are? In part, due to the diffusion rate of water. Why do plants close stomates even though this affects their ability to take up carbon dioxide? To avoid wilting, of course, but also because closing stomates limits water loss more than it limits carbon dioxide uptake. This book covers a lot of ground, but it’s not always obvious in which section a given topic is addressed. There is also a great deal of “see above” and “see below,” perhaps a result of it being a multi-author, edited volume.

Some particularly challenging topics, for example, the red/far red balance, the effects of blue light, and C4 and CAM metabolism are treated well, while other subjects are addressed in too much detail. The book has a comprehensive glossary and a helpful index. The writing sticks pretty close to the facts, yet I did enjoy occasional light moments. In addressing the practice of double digging, we are warned that “apart from its virtue as a form of exercise and a good reason for being out in the fresh air on a bright spring morning, it is vastly overrated.” I couldn’t agree more!

Science in the Garden is nicely illustrated, including over 100 photos with well-written, helpful captions. The book’s 50+ tables usually (though not always) enhance the text and photos. North American readers will quickly learn this is a British text that is unapologetic in its focus on British gardening. True, plant hormones, light, and meristems do not behave differently in Britain than in North America or Asia, but virtually all publications, product names, public gardens, and professional organizations mentioned in the book are British.

Later chapters move onto more practical topics, such as seed germination, propagation, and ways to deal with pests and weeds. In the chapter titled “Controlling Undesirables,” practical but rarely heard advice is offered: “Sometimes the damage caused by weeding is greater than that caused by the weeds themselves.” Gardeners looking for a “how-to” book, though, should look elsewhere.

Few readers will wish to read this book cover to cover, as I did. But for gardeners or plant biologists who want a readable, illustrated reference, this is a good place to turn.

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A Zapotec Natural History – Trees, Herbs, and Flowers, Birds, Beasts, and Bugs in the Life of San Juan Gbëë (by Eugene S. Hunn). The University of Arizona Press, Tucson. 2008. ISBN 978-0-8165-2617-8

Aviso: Though I am not an ethnobotanist, I am very interested in the subject, and have served on a number of graduate committees of students doing ethnobotanical projects. Recently, as a parent of a 7th grader attending Secundaria in Veracruz state, Mexico, I have been exposed to a lot of new information on indigenous languages and cultures. For this reason, I offered to review this book about the Zapotecs in Oaxaca, a state with much more indigenous peoples than most of the rest of this big country.

Professor Eugene S. Hunn has written a beautiful book about how the people of San Juan Gbëë regard all the other living things around them, and how they use the vast majority of these things for food, medicine, or a combination of the two. The book is beautifully illustrated, but unfortunately, not many of the illustrations are actually in the book itself; rather they are on a companion CD that comes in a pouch inside the back cover. In this way, the author could add many essential tables and figures that the publishers no doubt deemed excessive. Yet many of the tables referred to in the text would be much nicer to have in hand, rather than have to use the computer to see. The photos are beautiful, in color, very clear, but I would really like to have seen more of them in black-and-white versions in the book itself. Professor Hunn writes vividly of the personalities and actions of his friends and informants, and I think the reader’s appreciation would be greater with a photo every few pages, at least. But these are the challenges of publishing in the modern world! A very nice aspect of the CD inclusion is there are a number of sound clips of church bells, dawn chorus of birds, and some popular songs, which are all very evocative.

Hunn is an emeritus professor of anthropology, and consequently paid a lot of attention to the language of the people and its relation to Spanish and other languages. Sometimes this provides evidence of where the knowledge of use of plants originated. The use of “hot” and “cold” to categorize foods and the medicines that can ameliorate various health conditions in the indigenous cultures has been viewed by many scholars as a streamlined version of the Old World system that originated in India more than 3,000 years ago, subsequently influencing thinking from China to the Mediterranean, and then on to the new world via Spanish priests. Other scholars (including Professor Hunn) think that a similar, but different, hot/cold classification arose

independently in Mesoamerica, and, rather than the indigenous groups being 'confused' about the classifications of diseases as hot or cold (as if they had misunderstood the Spanish priests), they were interpreting things differently on the other side of the world.

Hunn is a scholar, and places his work in the context of others who have studied indigenous peoples of Mexico and other parts of the world. He looks at the natural world through the eyes of the Zapotec, considering first the people and their knowledge (very impressive, from an early age the children know most of the plants and animals in their world). He then considers the town and its organization, and the influences they wield on the surrounding environment. Much of the text is directed to the naming of plants and animals (his love of language is evident), then chapters on the milpa (agricultural field), plant medicines, and flowers complete the book. Much of the information (what plant is used for what, for example) is found in tables on the CD, rather than in the book itself. The final chapter, entitled "The Children," is about the future of the village, reiterating the amazing abilities of young children to identify plants and understand their uses – what Hunn calls "precocious acquisition." He feels that the existence of these abilities in the young of the Zapotec provides evidence that there are innate predispositions to acquire such knowledge. Perhaps current curricular emphases on experimentation and theoretical discovery are "unnatural," and may be less likely to meet with success in children, who may have innate abilities for absorbing and retaining natural history knowledge.

I will use some of the insights gleaned from this book to guide some approaches to learning in my class "Nature Teaching," and it will also be useful in presenting material and conducting activities in our Local Flora class. I am glad I read A Zapotec Natural History. I liked this book and recommend it to anyone who is interested in how people use plants, and also to those interested in different ways of relating to the natural world.

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Plant Biotechnology and Genetics: Principles, Techniques, and Applications. Steward, C. Neal Jr. 2008. ISBN 0470043814 (Cloth US\$100.00) 374 pp. John Wiley & Sons, Inc. Hoboken, NJ (2008)

A good idea finally put into print. Over the years many of us have taught a variety of students, bits and pieces of the material and principles in this book. It seems that this is the first time it has been gathered together in one place, other than the internet, which is a rather diffuse medium. The editor, C. Neal Stewart, developed the ideas for this volume while preparing a capstone course for an undergraduate concentration within a plant science department. While there are many books on particular aspects of plant biotechnology, or plant breeding, or basic genetics, the editor notes that they are either too advanced in basic science, or too applied with insufficient basic science. This volume was developed to find a suitable balance.

One could work their way through this book in a year at a pace of one page per day. In a one semester course it would require somewhat more focus. But the pace is still only about one chapter per week of a typical semester. However, some of those chapters could be a very steep learning process for students without prior exposure. Of course many students should have had some course with a significant amount of classical genetics, and a course in biochemistry including some discussion of recombinant DNA, by the time they reach their last undergraduate year.

This book was developed for a specific context, with students drawn from the College of Agriculture at University of Tennessee, Knoxville. Many of their previous course experiences would be in courses related to horticulture and turf grass, forestry and agronomy. The listed pre-requisites for such students include only limited exposure to classical and modern genetics. So at the very least a good review of this area is essential. I am not sure it is possible to do it justice in less than 20 pages which is all that is allocated here. As it is, it feels a bit like the Reduced Shakespeare Company's production of the bard's works. If you know the originals you can appreciate the allusions, but otherwise it may simply be too little to spark your synapses. I also noted the old and erroneous claim that all seven traits studied by Mendel were on separate chromosomes. They were unlinked, but not all on different chromosomes. I'm sure specialists in other areas could find similar minor faults with most chapters. Some typos and grammatical infelicities could have been improved by a bit more extensive editing in a number of places.

With 25 coauthors to corral, I'm certain Stewart had his hands full producing this volume in a timely