

★★ Recommended. Upper-division undergraduates. Graduate students, faculty, and professionals.—*S. M. Weiss, Secular, Eclectic, Academic Homeschoolers*

Botany

59-0735 QK861 MARC
Natural products of Silk Road plants, ed. by Raymond Cooper and Jeffrey John Deakin. CRC Press, 2020. 304p bibl index ISBN 9780367184513 cloth, \$249.95; ISBN 9780367184339 pbk, \$99.95; ISBN 9780429061547 ebook, \$99.95

This compilation in the publisher's series "The Natural Products Chemistry of Global Plants" highlights the natural products chemistry of countries in the Middle and Far East. Cooper (Hong Kong Polytechnic Univ.) and UK chemistry educator Deakin begin with a chapter summarizing the history and geography of the Silk Road, followed by chapters contributed by different regional experts. The contributed content reflects many different perspectives, emphasizing, for example, geography; applications of natural products in food, medicine, or material goods; and the historical context of selected plants. Some chapters provide a synopsis of the primary literature and focus heavily on reporting the chemical constituents of plants discussed; other chapters mainly contextualize information about the plant(s) in relation to specific regions and their histories. For instance, a chapter about melons in Central Asia includes a historical account of the development of cultivars and the storage of melons, in addition to presenting their chemical constituents and phytochemistry. Similarly, a chapter on alfalfa discusses the plant's significance as animal fodder and evidence of its origins in the Middle East. Overall, the volume is specialized and intended for researchers, scholars, and students of disciplines likely to intersect with natural products, such as botany and chemistry. **Summing Up:** ★★ Recommended. Upper-division undergraduates. Graduate students, faculty, and professionals.—*R. W. Baures, Keene State College*

Zoology

CC 59-0736 QL568 CIP
The Future role of dwarf honeybees in natural and agricultural systems, ed. by Dharam P. Abrol. CRC Press, 2020. 338p index ISBN 9781138335820 cloth, \$150.00; ISBN 9781003033936 ebook, \$58.95

The red dwarf honeybee (*Apis florea*) is the most common honey-producing bee species throughout tropical and subtropical Asia. This small bee is naturally distributed from India to the Malaysian peninsula. It is also present in several Middle Eastern countries, including Iran, Iraq, Jordan, Israel, Saudi Arabia, and Yemen. This honeybee is also commonly found in East Africa, but its populations are expanding westward. *Apis florea* has become one of the livelihood sources for marginal farmers in the above-mentioned regions and countries. Abrol (Sher-e-Kashmir Univ. of Agricultural Sciences and Technology of Kashmir) brought together 37 researchers to write this multidisciplinary treatise. Its 23 chapters include details on the biology, natural history, genetic diversity, distribution, foraging, nesting behavior, pollination behavior, and ecology of this species. The book highlights the manufacture of honey by these bees and their management from the viewpoints of tropical agricultural production and conservation of biodiversity. This work encourages utilization of a highly dependable pollinator that can help with food production in

tropical and subtropical areas that are increasingly affected by climate change. It is an interesting technical book for entomologists, biologists, agronomists, horticulturists, and those particularly interested in bee-pollinated tropical crops. **Summing Up:** ★★ Recommended. Lower- and upper-division undergraduates. Graduate students, faculty, and professionals. Students in two-year technical programs.—*J. M. Gonzalez, Austin Achieve Public Schools*

59-0737 QL991 CIP
Animal abnormalities: what abnormal anatomies reveal about normal development. Cambridge, 2021. 272p bibl index ISBN 9781108834704 cloth, \$105.00; ISBN 9781108819749 pbk, \$39.99; ISBN 9781108890793 ebook, \$32.00

In this scholarly discourse on animal anomalies, Held (Texas Tech Univ.) blends molecular and cellular biology with aspects of genetics, embryology, and teratology into an intriguing discussion of the mechanisms underlying abnormal development. In doing so, he calls attention to a fascinating variety of developmental defects—both naturally occurring and experimentally induced—spanning a wide range of animals from insects to humans. In particular, the study of such developmental abnormalities, which the author likens to the gradual unraveling of a detective story, is considered in the context of what it can teach us about the many factors governing the selective features of normal embryonic development. The book is well illustrated, with a large number of black-and-white photographs and a riveting selection of full color plates. Much of the information is discussed in historical perspective. Held provides an in-depth look at a broad assortment of developmental abnormalities; yet, little in the way of introductory discussion is provided, and a considerable familiarity with developmental biology and genetics is assumed. As published, this text will primarily be of interest to biologists with a suitable background in a relevant field of study. **Summing Up:** ★★ Recommended. Graduate students and faculty.—*D. A. Brass, independent scholar*

CC 59-0738 QP364 MARC
The spike: an epic journey through the brain in 2.1 seconds. Princeton, 2021. 232p bibl index ISBN 9781734281835 cloth, \$24.95; ISBN 9780691195889 ebook, contact publisher for price

Humphries (Univ. of Nottingham, UK) provides a thorough and interesting description of what we know and don't know about neural spikes, as well as why they matter. While the text includes some general background, it also dives into the true complexity of neural functioning. Throughout the book Humphries attempts to engage readers by describing the neural functioning involved in "reaching for the last cookie." While this scenario is not particularly captivating, the author does often successfully incorporate humor into his more technical descriptions. Humphries succeeds, too, at concisely describing complex information, although there are occasional passages overstuffed with detail or lacking important information (for example, in the discussion of sensory processing in the thalamus). Humphries provides an educated layperson's overview of basic neural functioning and brain anatomy, including helpful illustrations, yet readers without some background in these topics may struggle. On the other hand, a reader with background in the subject may find the book a bit repetitive and disorganized. In sum, Humphries tackles many intricacies of brain functioning, covering intriguing new topics such as "dark neurons" and spontaneous spikes, making this an interesting read for those who want an up-to-date, overall understanding of neural function. **Summing Up:** ★★ Recommended. Lower- and upper-division undergraduates. Graduate students, faculty, and professionals. General readers.—*R. Forbes-Lorman, Ripon college*