

## BOOK REVIEW

RICHARD W. KERRIGAN. 2016. **Agaricus of North America**. (ISBN-13: 978-0-89327-536-5, hbk; Mem. New York Bot. Gard. 114). NYBG Press, 2900 Southern Boulevard, Bronx, New York 10458-5126, U.S.A. (Orders: nybgpress.org, 1-718-817-8721). \$127.99 US, 592 pp., color figs., 7¾" × 10⅞".

This is a monumental work. One man's life passion on a difficult and enigmatic genus poured into 592 pages. As extensive as it is, it is not encyclopedic, and the fact that there are still so many loose ends and unanswered questions makes it that much more intriguing. As Kerrigan states, there is a lot of work to be done, and so it does not pretend to be the final words on this genus. That being said, it will clearly be the go-to resource for anyone interested in studying this group of macro-fungi for at least another generation.

The first part of the book is an interesting discussion of mycological systematics and issues around taxonomy. This alone is worthwhile for anyone interested in understanding current fungal taxonomy. There is an excellent discussion of terminology, study techniques, microscopic features, and especially the anatomies of the universal and partial veil in certain taxa. Adding further interest to this introduction are insightful comments on the history of the genus and the place of the *Agaricus* genus in commerce.

Kerrigan presents two keys to guide the identifier towards the "correct" species. The first is a rather classical dichotomous key, while the second is a "quasi"-synoptic key. Personally I always struggle with dichotomous keys for macro-fungi as they are so difficult to write, and it is easy to end in a cul-du-sac. I certainly prefer the synoptic approach and especially appreciate the use of a variety of non-morphological characters to place a specimen in a major group or division. Unfortunately, as Kerrigan states explicitly, while odor can be an extremely valuable characteristic, not everyone is able to detect some of the important volatile compounds, and our descriptive language is also imperfect.

Any shortcomings in this work are not the result of the author, but inherent in understanding so many macro-fungi because of their unpredictable and ephemeral fruiting habit and the limited number of observations. Unlike vascular plants for which range maps have become reasonably well-established, we still have a great deal to learn about the fungal kingdom. One disappointment is that many of the photographs are from voucher specimens, some of which lack detail and are not particularly photogenic. Very few also include habitat, which is probably not that important in this genus except for those in forested environments. Some specimens are immature, and others are partially dried. On the other hand, species identification in this genus is more dependent on features other than the simple macroscopic appearance—including odor, chemical reactions, and color changes—as well as some basic microscopic characteristics such as spore size and shape and the cheilocystidida. This should encourage much closer observation of all the features, rather than devolving to simple picture matching.

Even though the book limits itself to North America (Canada, USA, and Mexico), there are references and comments to this genus across the globe, as well as very extensive literature and nomenclatural citations. Kerrigan's comments on the current phylogenetic trees are well taken in that they should be interpreted with caution. It underscores his statement that our knowledge of this genus is a work in progress with much to be learned. But this is a wonderful starting place.

Although Kerrigan is explicit that the work is neither a field guide nor a definitive monograph on the topic, I suspect that it will be used as both. Which actually raises the issue of the audience for this work... It will clearly be very valuable for professional mycologists and for serious dedicated amateur mycologists who want to develop a deeper understanding and appreciation of this genus. It is certainly not a field guide in the traditional sense. Its weight and heft alone precludes that. No-one carries a 5-lb. book into the field. However all universities, herbaria, botanical gardens, mushroom societies, and serious amateur mycologists cannot afford to be without a copy of this book.—*Denis R. Benjamin, M.B., B.Ch., Resident Research Associate, Botanical Research Institute of Texas, Fort Worth, Texas, U.S.A.*