

BOOK REVIEW

INTRODUCTION TO RADIOACTIVE MINERALS by Robert LAUF, Ph.D. Schiffer Publishing Ltd., Atglen, Pennsylvania. (2008) Paperback with 193 pictures.

This book begins with a few introductory comments about the safe handling of uranium and thorium minerals—no mention of simply wearing gloves, though—the introduction relates the discovery and exploitation of uranium and thorium including a brief overview on worldwide economic reserves. Chapter 2 describes the formation and characteristics of radioactive deposits and chapter 3 deals with important radioactive mineral localities. Chapter 4 enumerates radioactive minerals including minerals with uranium or thorium as major constituents, other minerals containing significant U or Th and minerals containing trace amounts of U and Th. A short bibliography, a checklist of radioactive minerals, an index of mineral names and an index of mineral localities are given at the end of the book.

According to the author, the book is intended to serve as an introduction to the world of uranium and thorium minerals for serious students and collectors. To fulfill this purpose completely would probably require more detailed background information about U- and Th-bearing minerals and mineral deposits than the basic information that is given here. In places the background information lacks sufficient detail and in a few places is misleading. For example, in Chapter 2, “pyrometasomatic deposits” (skarns) are given as “deposits of thorianite-uraninite in marble as masses of lime-rich amphibolite (‘metapyroxenite’) near intrusive contacts.” *Pyroxenite* and *metapyroxenite* are terms more commonly associated with ultramafic and metamorphosed ultramafic rocks.

Chapter 1 would have benefited from a short explanation about radioactivity and radioactive mineral deposits that included more images and illustrations. The database for uranium resources is from 2003 and for thorium resources from 1999.

Although these are reasonably up-to-date, new statistical data for thorium was available in 2007 and perhaps could have been included.

The chapter on mineral deposits (Chapter 2) could also have benefited by more illustration. A little more interpretation of the data given would also have been beneficial. Very good data detailing uranium and thorium deposits and their development from around the world are available, in the literature, for example, from the US Geological Survey publications. The classification of radioactive mineral deposits is based on a work from 1958. Since then a significant number of new occurrences of mineral deposits have been found, and the changes in terminology the new discoveries have brought are unfortunately not reflected in the classification scheme used in this book. Despite these criticisms, the reviewer welcomes the fact that this book fills a gap in the literature by providing a systematic overview of the vast number of uranium and thorium minerals (Chapter 4). Any researcher in need of this kind of information will benefit from this book. Unfortunately, this very useful documentary aspect of the book is slightly marred by the fact that many of the photographs in these chapters appear slightly out of focus or suffer from poor color reproduction.

The book may also help collectors by giving a systematic overview of information on the variety of radioactive minerals, but this potential readership would have been helped further by adding a brief glossary of terms as an additional appendix. Although this book as a unique resource is useful in its present state, some of the improvements suggested above would have helped it even better fulfil the promise of the back cover to “be invaluable to mineral collectors as well as to nuclear scientists and engineers.”

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