

## SOFTWARE REVIEW

THE PHOTO ATLAS OF MINERALS. Produced by the Gem and Mineral Council, Los Angeles County Museum of Natural History. \$49.95 plus \$5.00 shipping/handling (CA residents add 8.25% tax).

**Computer Requirements:** A PC with 486-33 mHz or better; CD-ROM drive, Windows 3.1, 95, 98, or NT, 24-bit graphics card, mouse, and a sound card if you want to hear the mineral names pronounced. I had 24-bit graphics capability but only at low resolution (640 × 480 bits) with 1 Mbyte of graphics memory, whereas I usually operate at higher resolution to get a bigger desktop in Windows 95 (1024x768 bits). Consequently, I upgraded my graphics to a new 8-Mbyte board. A 4-Mbyte board is required if you want to operate in the high-resolution mode (Super VGA equivalent) while using the *Photo Atlas*. Add \$30 to \$100 to the purchase price if you are similarly constrained, but upward migration of hardware is a fundamental part of adding new software to your armamentarium. The *Photo Atlas* only uses 640x480 resolution however, so the Atlas window and images shrink in proportion to the greater screen resolution. Installation was straightforward following the instructions in the crystal pack for the CD, and I had no problems other than the one with graphics.

**Description:** The *Photo-Atlas of Minerals* is a CD-ROM-based application that enables the user to learn or review basic information on minerals, with the advantage of seeing high-quality images with locality information. As advertised, there are more than 6000 color images gleaned primarily from the photographs by Wendell Wilson and Lou Perloff. The color images cover more than 800 mineral species, although the CD has basic data for more than 4000 species. Wilson is the publisher of *Mineralogical Record*, a journal focused on localities and collectors, and Perloff is the foremost photographer of micromount specimens. Consequently, the focus of the *Atlas* is esthetic minerals in the macroscopic and microscopic mineral world and is thus aimed primarily at the large market of amateur mineral collectors.

The program begins with a few previews of the fine images and then offers several selections: Introduction, The Minerals, Slide Show, Glossary of Mineral Terminology, Identification Game, and Credits. The "Introduction" offers instructions and advice. An important attribute of the CD is the ability to place bookmarks, which allows you to keep track of what you have looked at, to associate information, and to compare up to four images on the screen. Indexes are available for localities of imaged species, so that associations can be made among minerals from a single locality. "The Minerals" is the main production, allowing examination of mineral data and images by mineral name, synonym or variety, Strunz system (the chemical and structural classification scheme of Hugo Strunz), metallic element, locality, crystal class, hardness, specific gravity, or luster. By combining the results of several selections, the

*Atlas* assists in mineral identification with the ultimate helpful element of having images to compare among crystalline specimens. However, I could not get the selections to combine into a short list, a bug that is acknowledged by the producers of the CD. While viewing the mineral data, the basic formula, name source, synonyms, crystallographic, and physical data are presented in three windows for minerals with images or as a card (without lattice dimensions) for species without images. "The Slide Show" is a handy way to check the coverage and caliber of images and can be set up by the user to limit the selections, e.g., macro specimens, certain species, etc. "The Glossary" is very complete, extending well beyond specimen-related terms to basic chemistry and physics. Images are provided for many textures or habits that are worth the proverbial 1000 words; however the esthetic focus leaves some of the more petrographic textures without images or a diagnostic feature missed for want of its beauty. Hopefully, some broadening in approach will be offered in future versions. The glossary is generally available from the various viewing screens with indexed words presented in a different color as a "hot button." "The Identification Game" is fine when the picture is an adequate representation of the species, but hopeless in other cases unless the goal is to memorize the specific pictures.

**Target Audience:** The most logical users for the *Atlas* are mineral collectors of all kinds, from the advanced megabuck collector to the dedicated micromounter or the starting novice who wants to train his/her eyes in the variations of collectible species. It also may be a useful adjunct in the classroom where the teaching collection can be augmented with these fine and readily accessible images. Certainly, the price tag makes it affordable. In its present form it is not helpful for identification of rock-forming minerals or the basic suite of minerals that are taught in modern or older-style mineralogy.

**Strengths and Weaknesses:** The system's strengths are in its compendium of data and its mostly fine images in an inexpensive package. Its main weaknesses are some problems in the software and the limitation to essentially two sources of images, both collector oriented. Because of this there are some marked disparities in the image coverage. For example, rhodochrosite has many images of fine specimens, with over 51 images covering examples from the Kuruman manganese deposits of South Africa; Alma, Colorado; Pasto Bueno and the Ucchuachu mine, Peru; Santa Eulalia, Chihuahua, Mexico; Mont St. Hilaire, Quebec; Moanda, Gabon; and Cavnic, Romania. However, there are no images from Sachsen in Germany; Broken Hill, Australia; Los Capillitas, Catamarca, Argentina; or from mines on Hokkaido or Honshu, Japan. Nonetheless, this is a staggering assemblage of images. Likewise, there are 43 images of adamite, mostly from Mapimi near Durango, Mexico and from Tsumeb, Namibia. "Thumbing" through the "P"s for readily recognizable species as a check for image coverage, powellite, proustite, pyrrargyrite, and pyrrhotite are pre-

sented well with 10 or more images; pectolite, perovskite, phenakite, phillipsite, phosgenite, piemontite, plancheite, polybasite, prehnite, pseudobrookite, pyrolusite, and pyrope have four to nine images that are generally good (but only one of prehnite and one of pyrope really look like ordinary habits); pargasite and psilomelane each have only one image that is not very useful; phlogopite has 3 micrographs that do not look like garden-variety phlogopite; and there are no images for palygorskite, paracelsian, periclase, pigeonite, pumpellyite, or pyroxmangite. The strengths and weaknesses of the image collection are thus unevenly distributed.

The color rendition in these images is generally excellent. The three problems that are true for perhaps 5% of the images in this atlas (as for ones in books) are color skewing, particularly with reds and greens (problem colors for our eyes and for emulsions), muddiness in some images, and, particularly, burning – white that bleaches adjacent colors where there is too much reflection or white scattering. Most of these problems are inherent with the original transparencies, but scanning may have exacerbated the effects. Scale bars are present on about

half of the images.

There are several problems in the program that occur on refreshing the screen or if you move back and forth between applications, as I did for this review. These problems require remembering where a key was or relaunching the software to get out, but I understand that these are being repaired in the next update. I also could not get the “combine lists” key, which allows identification, to work. From a quick examination, there are some errors among the data, but they do not appear to be numerous. The developers will fix these errors in the next implementation, Version 1.1, and they intend to continue upgrading the atlas. So, if you are a collector or want to see many fine images of esthetic minerals, this CD is a fine addition to your software library.

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