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Marshallussmanite

*Wessels mine, Kalahari Manganese Field
Northern Cape Province, South Africa*

Mineral collecting is a bit like fishing—to build a good collection you need patience and a few lines out looking to get at least one bite. But the one way mineral collecting is *really* like fishing is with the stories of the “one that got away.” Every collector has at least one of these stories, and probably more than a few museum curators have one as well. The stories usually involve the collector seeing a specimen and walking away to think about its purchase, only to later find that it sold while the collector was making up his or her mind. Another story-line is that the specimen was just a smidge beyond what the collector was willing to pay. And yet a third story-line involves an incorrect identification resulting in a return, but then the collector learns that the returned specimen is really a rare species that has never been found in great crystals. A variation on the misidentification theme is that the specimen turns out to be a new species, and the very specimen the collector returned is the type specimen! My personal “one that got away” happened recently and involves a combination of the frugal and misidentification/new species scenarios.

During the 2011 Denver Gem and Mineral Show, mineral dealer Dan Weinrich showed me a wonderful specimen of bustamite from the Wessels mine in South Africa. I brought over the Smithsonian Institution curator, Dr. Jeffrey Post, and Dr. Michael Wise, a geologist at the Smithsonian, to look at it, and we decided that, although expensive, the rarity of bustamite dictated that we should acquire it. Although pleased with this acquisition, I was a bit leery of the identification, so I asked Post to X-ray the piece to be sure the identification was correct. It turned out that he, being a manganese mineral aficionado, was thinking along the same lines. He also did some preliminary chemi-

cal analyses that, combined with the X-ray diffraction data, showed that the specimen was likely pectolite containing a small amount of manganese. Contrary to popular belief, the Smithsonian does not use taxpayer dollars to acquire specimens. Instead, it uses interest accrued from endowment funds to purchase them. We really need to think over each acquisition in order to determine whether the specimen in question is worth the price, a decision-making process to which every collector on a budget can relate. We were willing to spend the money for a bustamite, but we considered the price to be a bit excessive for a manganese-rich pectolite. After contacting the dealer and attempting to negotiate a better price, we ended up sending the piece back.

It happened that Dr. Marcus Origlieri was visiting with Dan and Diana Weinrich and heard the tale of the misidentification and contacted Post and me. After these conversations, Origlieri became interested in pursuing the identification further. Fast forward to December 2013, and imagine my surprise and regret when I learned that the manganese-rich pectolite turned out to be a new species—marshallussmanite. Those collectors who acquired a Wessel's mine bustamite back in 2011 are now the lucky owners of a marshallussmanite. And to those readers wondering, the answer is yes, I have beaten my head against the wall in my office over this, particularly because this column's featured specimen happens to be the same piece we returned!

Marshallussmanite is named for mineral dealer and collector Marshall Sussman of Tucson, Arizona, who specializes

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Figure 1. Marshallsussmanite, 9.1 cm high, Wessels mine, Kalahari Manganese Field, Northern Cape Province, South Africa. This specimen was previously identified as bustamite. Dan and Diana Weinrich specimen, Jeff Scovil photo.



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Figure 2. Marshallussmanite, 4.3 cm high, Wessels mine, Kalahari Manganese Field, Northern Cape Province, South Africa. Scott Rudolph specimen, Jeff Scovil photo.

in South African and Namibian minerals. Whereas most new minerals are found as microscopic specks on or in matrix, and the usual color range would be best described as drab, marshallussmanite breaks that stereotype because it occurs in relatively large and colorful crystals. The type locality is the Wessels mine, Kalahari Manganese Field, Northern Cape Province, South Africa. Mineral collectors are familiar with the Wessels mine for its wonderful assemblage of minerals, including spectacular specimens of gaudefroyite, crystals of sugilite, and the finest known examples of shigaite, to name but a few (Cairncross and Beukes 2013).

The chemical formula of marshallussmanite is $\text{NaCaMnSi}_3\text{O}_9\text{H}$. The crystals are triclinic with space group $P\bar{1}$. The crystals occur as divergent aggregates of blades to 1.2 cm in association with aegirine, hydroxyapophyllite-(K), calcite, and serandite. Marshallussmanite displays cleavage along $\{100\}$ and $\{001\}$ and has a splintery fracture. Its color is pink with orange tinting; it is transparent and has a vitreous luster, a Mohs hardness of 5.5, and a density of 3.17 (Origlieri, Downs, and Yang 2013).

So you now know my “one that got away” story; I would like to learn of your experiences and possibly share them with readers. If you are interested in sharing, please let me hear from you (pohwatp@si.edu).

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REFERENCES

- Cairncross, B., and N. Beukes. 2013. *The Kalahari Manganese Field*. Cape Town, South Africa: Struik Nature.
- Origlieri, M. J., R. T. Downs, and H. Yang. 2013. Marshallussmanite IMA 2013-067. *CNMNC Newsletter* 18, December 2013, page 3256; *Mineralogical Magazine* 77, 32493258. □

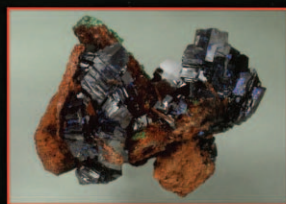
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