

## What is mariposite? Is it a phengite or fuchsite mica?

Donald Kasper 8-8-2017

On Mindat we have the following online discussion of mariposite:

“First Recorded Locality:

① [Mariposa Co., California, USA](#)

A green Cr-bearing "phengite".

See also [fuchsite](#).

Originally described from Mariposa Co., California, USA.”

This rather poor entry about mariposite based on a look and a color led to a bizarre blog on Mindat posted below where the contributors get lost in the weeds due to the Mindat misinformation about mariposite.

I have several slices of this material. Its chromium green-like coloration and white is distinctive. Infrared spectroscopy conclusively shows that in this case the colorant has nothing to do with the bulk composition. This is a rock composed of magnesite (magnesium carbonate) and quartz. The picture of this material I purchased, and its graph is shown below. No chromium mineralization or mica is detected. So this identification entry in Mindat was based on color and guessing. This is their standard of data entry. If you don't know, then a professional says “We don't know its composition, but based on its color alone it may have chromium.” However, this is not the web site standard. They make assertions based on no information whatsoever about this rock, simply repeating hearsay as science.

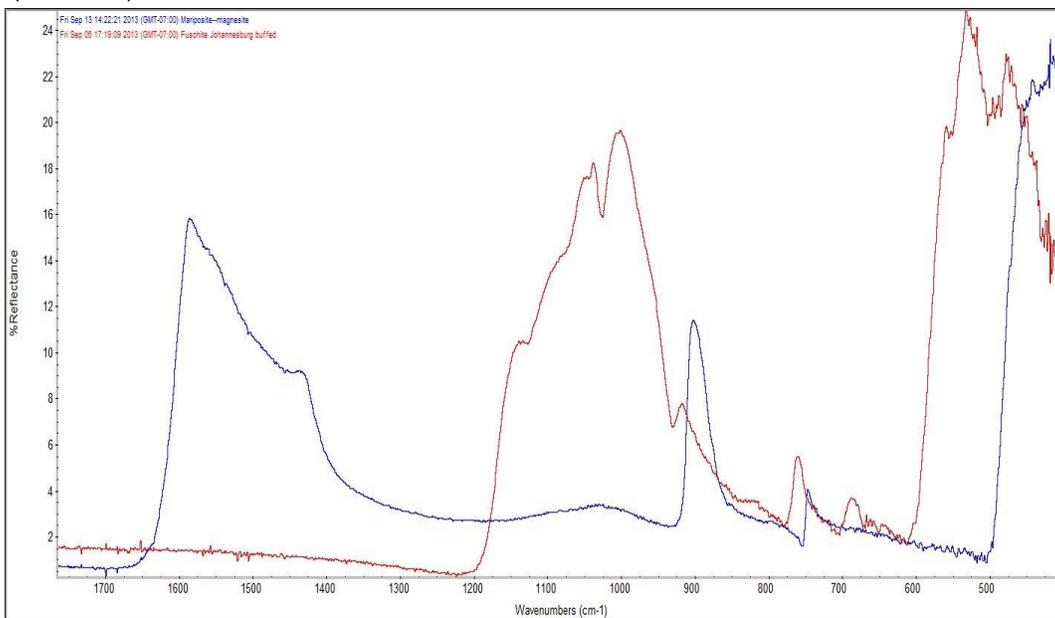
Yet, it gets worse. The Johannesburg, CA fuchsite locale, a major site for local collectors, is an actinolated muscovite. Yes, its color comes from actinolite, not directly from chromium-muscovite.



Close-up of green mineralization in Mariposite.

Mariposite (blue graph)—magnesite, versus Johannesburg, CA fuchsite (red graph)—actinolite and muscovite (Reflectance infrared).

The left tall peak doublet for fuchsite has a left peak of muscovite and right peak (rounded) of actinolite.



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## Mariposite Question

Posted by [Matthew Stanley](#)

[Matthew Stanley](#) June 27, 2017 06:16PM

On the Mariposite page, it identifies mariposite as a variety of Phengite. However, the Phengite page says phengite is IMA-discredited. So what is mariposite (from Mariposa County) a variety of then, if I want an IMA approved classification for my label?

Thanks in advance!

[Uwe Kolitsch](#)  June 27, 2017 06:44PM

Mica ;-)

(Unless you have an analysis.)

[W. Richard Gunter](#) June 27, 2017 06:57PM

Uwe:

Are Mariposite and Fuchsite not varieties of Muscovite? I know it is not much more precise than Mica but I have not seen any analyses of the two with an iron component.

[Matthew Stanley](#) June 27, 2017 07:14PM

So the mariposite from Mariposa County can be from multiple species of the Mica Group? I have a hard time believing that and a hard time believing no one has ever tested it to narrow it down.

As a side note, lepidolite is also discredited, and its page state that it is "A series between Polyolithionite and Trilithionite." Should the Phengite page state similar information?

[Uwe Kolitsch](#)  June 27, 2017 07:20PM

>Should the Phengite page state similar information?

It already does:

"white micas with Si in excess of 3 apfu (atoms per formula unit) in the tetrahedral T site, thus lying on the joins muscovite–aluminoceladonite, and muscovite–celadonite."

So mariposite is not necessarily muscovite.

**Pavel Kartashov**  **June 27, 2017 07:46PM**

May be Mariposite is member of muscovite–chromceladonite series?

**Response:** Celadonite only occurs in volcanic rocks, so now we are down to mineral identification guessing based on green color. This is a very poor way to go.

**W. Richard Gunter** **June 27, 2017 07:49PM**

Fuchsite is described as a variety of Muscovite on its page. Are Mariposite and Fuchsite not synonymous?

**Reiner Mielke**  **June 27, 2017 10:28PM**

Since mariposite is not a species name and "mariposite is not necessarily muscovite" It could be synonymous in some cases and not in others. Better to just not use the name. Sounds like "mariposite" from Mariposa needs an analysis.

**Jeff Weissman** **June 28, 2017 04:38PM**

In the Centennial Edition, Minerals of California, by Murdoch and Webb (1966), Mariposite is described as being "essentially muscovite, var. phengite characteristically colored green by the presence of some chromium", with up to 1% Cr. Abundantly distributed throughout the Gold Belt of the Sierra Nevada. Originally found at the Josephine Mine, Mariposa Co., California. References to reports dating from 1869 (first report by Silliman) are given if further information is needed.

**Response:** This is old literature based on guessing, accumulated into a centennial book capturing the mineral reports of California. So this was a capture presumably of a late 1800's report based on no method of spectroscopy. One percent colorant sounds like a good enough

guess. We know it is a guess because if they had bothered to look, they would have found the rock is magnesite and quartz.