Alexandrite guide forums

* Colour change garnet
* In Alexandrite Effect (Guide Discussions)
* Posts: 4 Comments: 0 Views: 111258
* Colour change in garnet is supposed to occur between morning and late afternoon light
* Latest Causes of color change in malaia and color changing garnets by David Weinberg on Apr 9 2009, at 08:55

Angelica
Forum author
Posts: 7
Colour change garnet on Apr 5 2009, at 13:17
<![CDATA[I want to know more about colour change garnets. From all the comments I have read, I understood that the colour change in garnet is supposed to occur between morning and late afternoon light, which is not the same as with alexandrite color change phenomena which cause colour change depending on daylight and incandescent light. Does it mean that garnets will not change colour under an incandescent light bulb?
What causes the garnet colour change? Is it the alexandrite effect or some other optical phenomena, like the Usambara effect for colour changing tourmalines?
I saw brown to red and greenish to reddish colour change. But garnets come in all kind of colours - pink, red, purple, orange, yellow, violet, green and even colourless. What kind of other colour change in garnets exist?]]>

David Weinberg
Primary contributor
Posts: 23
Colour change garnet vs Alexandrite on Apr 7 2009, at 09:48
<![CDATA[Faceted alexandrites and color change garnets can occur in wide range of colors that are a function of chemistry and crystallographic orientation, it is impossible to describe color change in anything but generalized terms.

However, our experiences photographing and grading both kinds of stones in a variety of light conditions suggest that color change garnet is usually more sensitive to color changes in the higher ranges of daylight above 4500 K. Whether in morning or afternoon daylight and with or without sunlight, alexandrite color is fairly constant and only shows a dramatic change under incandescent light.

Color change garnets on the other hand, often show a significant change between 4500K daylight and 6500K cool daylight (fluorescent light). Indeed some of the color change garnets especially from the new deposit in Chavia, Kenya have been referred to has tri color garnets because of their larger color change range. To appreciate the full range of colors in these stones we need to view them under incandescent, natural daylight, and fluorescent light. Without viewing the stones under every kind of light it will impossible to appreciate the full range of colors.
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Attachment (s)

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Marisa Spano
Moderator
Posts: 11
Colour change garnet, Malaia garnet and malaya garnet on Apr 8 2009, at 08:21
<![CDATA[But what causes the garnet colour change - is it the alexandrite effect? For instrance - malaia garnet, malaya garnet and color change garnet are all a mixture of pyrope and spessartite so what's the difference? Why malaia garnet doesn't change colour?
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David Weinberg
Primary contributor
Posts: 23
Causes of color change in malaia and color changing garnets on Apr 9 2009, at 08:55

<![CDATA[Malaia is name given to garnets orange to pinkish orange to red in color which do not match the color and gemological properties of any of the other more well known varieties of garnet. (Some authors spell it Malaya garnet).

Indeed, the word malaia means prostitute or out of the family in Swahili. Primarily composed of spessartite
and pyrope, the color and gemological properties occur in a range which can overlap with grossularite, rhodolite, and pyrope.

Some of them may change color under daylight and incandescent lighting and these stones are more commonly and collectively known as Color Change Garnets. It is thought that the color change is due to the presence of vanadium or chromium in trace amounts. Our own observations indicate that color change could also be influenced by the needle like inclusions of rutile or actinolite which are common in the color changing stones but less apparent in the stones that don't change color.
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Attachment (s)

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See Alexandrite Tsarstone collectors guide, Colour change garnet, http://www.alexandrite.net/viewpage.html?id=FRM-342 (Colour change in garnet is supposed to occur between morning and late afternoon light) (as of).